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Keynote address: Megatrends in Europe and the consequences for critical care nursing

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Within the next 20 years Europe will change tremendously. In Middle and Eastern Europe and Scandinavia a new Europe arises. In other parts Old Europe is developing itself. Both Europe's offer interesting new demographic patterns, both offer interesting new economic opportunities. In both Europe's the health care industry is due to major changes, due to modern technology, changes in environments and financing, gene-technology, ageing populations, part-time living people in several countries and places at the same time, which makes hospitals and nursing not necessarily something to realize in one place at one time. Which changes do we face in the health care industry in the next few years? Which effects does this have on nursing and critical care nursing especially? How can we cope with these revolutionary changes? How will these effect our branch-culture, our way of working, our work-life-balance and our attitudes? How will they effect our ethics?

Critical care nursing across the life continuum, how do we respond to the challenges?

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Critical care nurses work wherever critically ill patients are found – intensive care units, neonatal ICUs, paediatric ICUs, cardiac care units and other settings in the hospitals. They also work in home healthcare, outpatient surgery centres and clinics and other organisations. Critical care nursing is a complex but also a unique speciality within the nursing profession. The possibilities to learn and the challenges are endless. During this presentation I will take you on a journey starting with the neonatal, the paediatric, the adult and the elderly critically ill patient. I will be exploring the different problems / challenges for each one of these patient groups and also discuss how do we respond to the challenges?

Family centred care across the life continuum

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When patients are severely ill or injured and cared for in intensive care units, the patient's family is also affected and in most cases

suffers from worry, stress and anxiety. The family members of the patient often represent different age groups and thus nursing care in an ICU involves adults, elderly, adolescents and children. Patients are cared for in ICUs for a few hours, others for days and a few for months, most of them survive and some dies. Due to these different conditions the care must be seen as complex and must be individualized. Some of the most important questions that concerns caring are: Is the presence of the patient's family important for the patient and what does it mean for the family members to visit and stay together with the patient in the ICU, also in a long term perspective. What kind of care can the ICU nurses provide and what are the goals with that care?

From these questions previous and ongoing research will be presented in order to illuminate our knowledge and lack thereof. Some important concepts and phenomenon in the intensive care and care of patients and their families are participation, fellowship, privacy and dignity. These will be presented, explained and illuminated. The nursing care is however also affected by the physical ICU environment, which can either support the nursing care or be an obstacle. The patients are usually subjected to intensive treatment and nursing care activities which often contributes to experiences of being distanced from the patient. But the patients' condition also contributes to a distance and feelings of separation and death. The care of patients in the end of life is often a neglected issue in intensive care but in these situations the quality of nursing care will be proved and unveiled.

SESSION: CORONARY CARE NURSING

Screening patients for cardiac resynchronisation therapy by a nurse practitioner: A new role for the coronary care nurse?

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Background

Cardiac Resynchronisation Therapy (CRT) can be offered to patients with advanced heart failure. Criteria for CRT are: ventricular ejection fraction of 35% or less, NYHA III or IV functional classification, QRS duration of 120 msec or more, a stable heart failure medical regime (including an angiotensin-converting enzyme (ACE) inhibitor or substitute and β -blocker therapy, unless contraindicated or not tolerated). Even though when patients meet these criteria, about 30% of the patients do not (or not enough) respond to CRT ("non-responders"). Therefore the VU university medical center has developed a temporary biventricular pacing protocol (TBPP) to select responders before a definite biventricular pace-

maker is implanted. Figure 1 shows the pathway a patient goes through from enrollment for possible CRT to definite pacemaker implantation. Not only patients of our center are accepted for CRT, but there are also patients who are referred to our center from other hospitals. Initially the latter patients were accepted at the letter of the referral physician. Hereby we found during TBPP a substantial number of patients who did not meet the criteria for CRT. Therefore the question rose whether a Nurse Practitioner at the Outpatient Heart Failure Clinic could have a role in screening these patients.

Method

In September 2003 a protocol was developed for patients who were referred for CRT. The first (letter) selection was made by the cardiologist. If a patient seems to be suitable for CRT a screening using a predefined protocol was done by the Nurse Practitioner. The screening consist of taking the patients history, including NYHA functional classification, physical examination, EKG, blood tests, Minnesota QOL questionnaire, Six Minute Walk Test and echocardiography.

Retrospective we investigated the number of patients who were rejected for TBPP.

Results

In the period October 2003 to April 2005 a total number of 58 patients were screened by the Nurse Practitioner. Of these 58 patients 29 (50%) were rejected for TBPP. The main reason for rejection was EF > 35%: n = 10 (34%), followed by the NYHA functional classification: n = 8 (28%) and other reasons (e.g. physical activation or excluding pathology different from cardiac pathology) n = 8 (28%), (cardiac) ischaemia detection: n = 6 (21%) and finally motivation: n = 5 (17%). The fact that the sum of the percentages is more than 100%, is because one patient can have more reasons to be rejected (e.g. NYHA II and EF > 35%). (Table 1.)

Although the waiting time and waiting list for TBPP are not measured at the beginning, it seems that these two are also reduced since the Nurse Practitioner started the screening.

Conclusion

Intensive screening of patients who are referred for CRT can be done by a Coronary Care Nurse/Nurse Practitioner. This prevents a substantial number of patients from undergoing invasive procedures like TBPP and seems to lead to a reduction of the waiting time and waiting list for temporary biventricular pacing protocol. Table 1: Reasons for rejection for TBPP in percentages.

(NYHA class. = NYHA functional classification; Isch. Det. = ischaemia detection; EF = ventricular ejection fraction.)

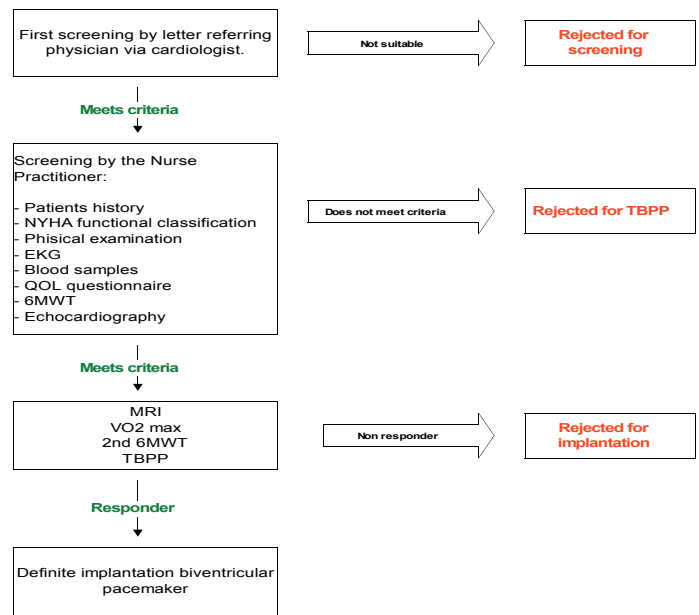
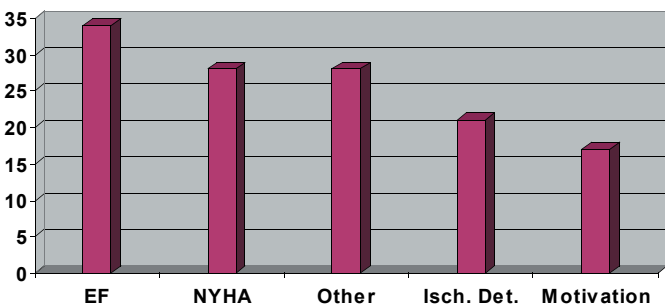


Figure 1: Flowchart of the route a patient goes if he is a possible candidate for CRT.

(NYHA = New York Heart Association; QOL = Quality Of Life; 6MWT = Six Minute Walk Test; MRI = Magnetic Resonance Imaging.)

Education and clinical decision making among coronary care nurses: a comparison between Greece and England

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Introduction

Many researchers have noted clinical decision-making as an integral component of the role of the professional nurse (Bucknall T and Thomas S, 1997). The decisions the nurse will face can range from routine to life-and-death situations. From personal experience and observation, coronary care nurses from Greece and England appeared to make different clinical decisions and this was due to the variation in educational preparation and in nurse's clinical autonomy and authority. The linear model was formulated as follows:

Education → Role → Clinical decision-making

Aims

- a) to compare pre-registration nursing education in Greece and England
- b) to explore the autonomous role of coronary care nurses in Greece and England
- c) to measure the quality of clinical decisions in the acute and recovery phases of M.I in Greece and England

Methods

Pictographs were used to test knowledge of anatomy and physiol-

ogy of the normal heart. The sample (n=161) was final year student nurses of diploma and degree courses in Greece and England. Clinical decision making cards were employed to explore the autonomous role of coronary care nurses and the quality of nurses' clinical decision-making. The sample (n=100) was registered nurses who worked in coronary care units in Greece and England. In both studies, expert panels and pilot studies were employed.

Results

The study found that:

- English final year student nurses had better knowledge of anatomy and physiology of the normal heart than the Greek students ($p < 0.05$)
- English coronary care nurses had more autonomy in the acute ($p > 0.05$) and recovery ($p < 0.05$) phases of M.I than the Greek nurses
- English coronary care nurses made better quality clinical decisions in the acute ($p > 0.05$) and recovery ($p < 0.05$) phases of M.I than the Greek nurses

Conclusion

The study reveals that the more educated coronary care nurses are and the more autonomous role they have, the better quality clinical decisions they make.

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Exploring paramedics' perceptions of initiating thrombolytic therapy for patients with suspected myocardial infarction; a pilot qualitative study

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Aims

- To describe the ambulance paramedics' perceptions of their role and impact with regard to delivering thrombolytic therapy in the pre hospital setting
- To determine the principal concerns (personal and professional) of ambulance paramedics regarding 'autonomous' paramedic-initiated thrombolysis in the future.

Background

There is a body of evidence to support the importance of early thrombolytic therapy (Fibrinolytic Therapy Trialists Collaborative Group 1994 Boersma 1996). This has led to national guidelines being set for the management and treatment of cardiac patients (Department of Health 2000). Individual Trusts have responded to the challenge with a variety of developments for example: Nurse initiated thrombolysis (Qasim 2002) and the move of cardiac care to the Accident and Emergency Department (White 2000). However there has continued to be a delay in initiating thrombolysis within 60 minutes. Historically patients are treated at point of entry to hospital (DOH 2000). However it would be advantageous to treat the patient at point of initial contact normally in the community. It has been acknowledged that paramedics can safely and ac-

curately identify patients for thrombolysis (Pitt 2002, Keeling 2003) and the benefits of prehospital thrombolysis have been confirmed in a meta analysis (Morrison et al 2000), However what has not been established is the paramedics perceptions in the change to their role with the introduction of pre-hospital thrombolysis.

Methods

A convenience sample of 24 paramedics from one Ambulance Rural centre was recruited to participate in one of two focus group interviews. A topic guide helped to structure the focus group discussions which lasted for one hour each. The content of the interviews were tape recorded and transcribed verbatim. Thematic analysis of the narratives was made using standard qualitative techniques.

Results

Initial interpretation identified five key themes, these being paramedics perceptions of: A moral duty of care, imposed change, professional status, expanding role and preparedness for practice.

Conclusion

The conclusion will analyze the significance of these themes and explore their contribution in providing an understanding of the evolving role of ambulance paramedics.

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Monitoring for cardiac arrhythmias in patients with acute self poisoning

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Slovenia is one of the countries which are heavily burdened with suicide and occupies high position in Europe and at worldwide level for many years. It is difficult to discuss the reasons, but this situation is not new one and is not only result of contemporary changes in political and economic in system. Drug overdoses and acute poisonings as suicide attempts are frequent reasons for admission and treatment at emergency and intensive care units. Aims are to present review of acute poisonings at the Medical Emergency Department in University Medical Centre Ljubljana which is main hospital in Slovenia and to present a clinical pathway for patients presenting with severe drug overdose. This includes delivering entire, individually oriented nursing at emergency department, inten-

sive care unit and department for clinical toxicology. Main causes of acute poisonings are drugs, alcohol, drugs of abuse and carbon monoxide. In general, at acute poisonings intervention techniques necessary in treating and stabilising patients are directed toward management of the airway, maintaining adequate ventilation and circulation, correction of acidosis, expediting elimination of toxic substance and preventing further absorption of substance. Life-threatening condition of patients, impaired consciousness and strongly diminished ability of self care are often presented.

Benzodiazepines, antidepressants, neuroleptics, analgesics and antihypertensives are the most frequent reasons for poisoning with drugs and can induce cardiac arrhythmias. Cardiac effect include sinus tachycardias, sinus bradycardias and disturbances in conduction (first degree AV block, bundle branch block, intraventricular conduction defects, disappearance of P waves, total AV block, ventricular tachycardia, ventricular fibrillation and asystole in severe toxicity).

Sudden changes in patient's condition at acute poisonings are often and unexpected. Nurses should be aware cardiac arrhythmias may occur any time, so continuous observation and cardiac monitoring for 24 hours post ingestion with accurate and prompt recognition of any abnormalities are of great importance. Pulse, blood pressure, ECG, respiration rate should be monitored and it is important to ensure adequate oxygenation. Patient should be treated symptomatically and supportively.

Treatment of acute poisoning as suicide attempt is not only responsibility of health services but requires multidisciplinary approach to patient care. Cooperation of different professions (psychiatrists, social workers, psychologists and others), relatives and friends is necessary. Additionally, having positive attitudes towards patients exhibiting suicidal behaviours, improves and raise the quality of care. The return of the patient to normal life is result of successful work of whole team. The role of nurse in treatment of suicidal patient is important and very demanding and should include delivering high quality care 24 hours a day, high level of professionalism and considering moral-ethical aspect.

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SESSION: TRANSPORT AND GUIDELINES

A reconfigured ambulance trolley as a mobile pediatric intensive care unit assigned for interhospital transport.

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In general pediatric intensive care units (PICU) are centralized in tertiary hospitals, requiring a transportation system to transfer young patients from initial management areas towards the PICU. This transport system should be safe according to the highest safety standards and include instauration of full PICU therapy from the moment patient care is delegated to the transport team. This thera-

py should be identical to the therapy that will be continued at the PICU and maintained prior to, during and after transport. Therefore all PICU equipment has been integrated on a reconfigured ambulance trolley, leading to the design of an out-of-hospital bed with exactly the same equipment and options as a standard PICU bed. In a transport team generated by the PICU ward itself, no new or additional equipment is challenged what might reduce stress among team members. A standard available Stryker M-1 rugged trolley has been provided with a second patient level. Most of the equipment has been integrated in the level between carrier and patient bed, creating full and 360° access around and above the patient. All original 10G fixation points are kept integer. Binary gas supply and a manifold controlled distribution system provide a Siemens 300 servo respirator with compressed air and oxygen, either from the trolley gas cylinders or the ambulance resources. The same accounts for oxygen and aerosol therapy. 2 separate batteries generate 1200 Wh resulting in 2 hours of electronic autonomy in case of ambulance inverter failure. The trolley is standard equipped with 4 IV syringe pumps but 3 IV poles add unlimited expansion. Full monitoring (including ETCO₂ and invasive blood pressure measurement), AED and communication system are incorporated. The trolley is also equipped with a suction unit and an active heating and humidification device for inspired gasses. Standard PICU medication and disposables, resuscitation charts and precalculated medication charts are available in the transport backpacks.

How Parents Experience the Transfer from her Children out of the Intensive Care Unit: A Literature review with evidence based implication for the nursing practice

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Background

The lecture highlights the implication for nursing practice in the Children's University Hospital Zürich and the first experiences with new guidelines for transfer plans. Nurses observe that the transfer of children out of the Intensive Care Unit to the ward is perceived very differently by the parents compared with staff. The goal of this literature review is to get acquainted with the parent's point of view of the transfer of their children from the Intensive Care Unit to the ward.

Results

The following core-states can be found in the studies:

- The relocation process causes positive and negative feelings
- Both parents and relatives face the relocation process more critically or feel more anxiety than the patients themselves, who either cannot name their feelings or describe them as indifference or detachment.
- Insufficient preparation and information are experienced as a significant stress factor by parents, relatives and patients and influence their perception.
- Furthermore, the loss of the security provided by the Intensive Care environment (familiarity with the Nursing personnel, one-to-one care, monitoring, supervision) and the changes to the ward cause additional insecurity to parents, relatives and patients.

Implications

ANP is the short form for advanced nursing and can be explained

with expanded and deepened nursing practice. ANP interventions are based on the experience of the nurses and integrate the latest results from the literature. The patient, the parents will be integrated and also caring are very important factors to make decisions for the practice. Based on these results the ANP cardiology group worked out some guidelines for the practice. The implications and the first evaluation results will be presented.

Children with severe meningococcal infection: The Dutch consensus for nursing guidelines

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Background:

The national PICU working group was formed in 2001 in order to develop national guidelines for the total nursing care for patients in the PICU

The severe meningococcal septic shock (SMS) was selected as initial objective, because of the serious and life threatening character of the disease. Also guidelines and additional information were needed by general hospitals. Adequate therapy and optimal care according to standard guidelines are important for patients with rapidly progressive meningococcal septic shock.

Aim:

The general aim was to optimise the overall nursing care for children with SMS in the PICU and general hospitals. Therefore the academic hospitals had to reach consensus in best practise or evidence based treatment and nursing care for every PICU and to present national guidelines for the total nursing care for a child with a SMS.

Methods:

At first the PICU working group defined the structure of the guidelines to be made. After that they collected from each PICU of the participating centres the nursing and medical guidelines. One member of each PICU worked on a specific part of the medical and nursing guidelines with the help of the pediatric intensivist. When the guidelines were made, all the members and the medical supervisors reviewed the material. After consensus the guidelines were achieved. The guidelines can be found on the internet <http://www.picu.nl>

Results:

National nursing guidelines on total nursing care of the pediatric patient with SMS, divided in 6 items: treatment in the first 24 hours, transport to the PICU, clinical course in the PICU, transfer to the general ward, special care for parents and follow up and rehabilitation

Conclusion:

To improve the quality of care for SMS patients evidence based and best practise guidelines were developed on national level in the Netherlands.

On behalf of the Dutch PICU Working Group:
Karen Hofmann (chairman), Jan Willem de Valk (vice chairman and secretary), Digna van Geest (treasurer), Saskia van Bortel, Truus Kooiman, Elna Walraven, Resi Moulen, Chantal Tersteeg, Petronette Jaarsveld and Christiana Horasiccama.

Paediatric Resuscitation Guidelines

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The European Resuscitation Council (ERC) published guidelines for Paediatric Life Support (PLS) in 1998, based on the 'Advisory Statements' of the International Liaison Committee on Resuscitation (ILCOR). As a consequence, a series of evidence based studies on paediatric resuscitation was initiated by the AHA in cooperation with members of the ILCOR. Results of these studies led to the publication of 'Guidelines 2000 for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care' in August 2000. This document has then become the basis for changes in the previously published guidelines for PLS, published by the ERC. Resuscitation in children is a rare event, so medical staff is often unprepared and emotionally stressed. In contrast to adult acute care medicine standardized procedures for resuscitation are still in progress. It is well documented in clinical studies that a uniform education using algorithms in child resuscitation can reduce mortality to up to 30% [1, 2, 3]. The European Paediatric Life support course offers a uniform training system with proven success for education of medical staff in child resuscitation for nationwide use.

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SESSION: PRACTICE DEVELOPMENT

Post-operative confusion – clinical advice for the care of patients with post-operative confusion in the light of three nursing theories. Collaboration between psychiatry and intensive care.

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Background

Post-operative confusion is a relatively common and well-known condition in patients who are treated in intensive care units (ICU's). Between 20 – 60 % of all patients who are treated in ICU's exhibit signs of confusion. They find themselves in a psychosis-like condition and can have difficulty in co-ordinating thought and speech, in orientating themselves in time and space and in receiving and processing information. Some patients can have occasional unreal experiences. Suspiciousness, fear, anxiety and aggressive behaviour can develop. Certain patients become euphoric whereas others exhibit passive behaviour. Signs of post-operative confusion can develop two or three days after the patient's arrival at the ICU and can last for several weeks (1). The nurse is often the first person

who notices the patient's confusion. At the same time, the nurse, together with other members of the care staff are viewed as being quite badly prepared to identify and adequately treat the various stages of confusion.

Objective

One of the objectives was to produce clinical advice, based on scientific literature, three nursing theories and practical experience, regarding the care of patients with post-operative confusion. A further objective was to produce an information booklet for patients and relatives affected by the condition.

Method

Literature studies and practical experience.

Results

In the light of the information we obtained from literature studies and from in-depth studies of various theories as well as from our own clinical experience we arrived at clinical advice which we divided into three parts: (a) preventative measures (b) what can be done once the patient has developed post-operative confusion and (c) what ought to be considered after an incident of post-operative confusion (an action plan can be enclosed on request). An information booklet, written for patients and their relatives, was produced.

Conclusion

In today's health service nursing staff often fail to notice that patients are entering an acute state of confusion and it is first noticed when the patient is agitated or confused. When the patient becomes agitated or paranoid s/he may need to be sedated, which can lengthen the time spent in the intensive care unit and thereby increase the risk for complications. Early detection of post-operative confusion is important in order to be able to provide adequate treatment and care. It is therefore important that the nurse learns to recognize the symptoms in order to start (preventative) treatment/nursing interventions. A theoretically-based clinical action plan provides an opportunity to assure the quality both of the preventative nursing as well as that of nursing and treatment in instances of post-operative confusion. The nursing period can be shortened and the patient guaranteed a more secure nursing care. It is our hope that this work can contribute to the better nursing of patients suffering from post-operative confusion. An action plan based on theories forms a stable basis for the suggested measures. A caregiver who works in accordance with a rational theory has a frame of reference on which to base his/her opinions.

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The effectiveness of performance feedback in improving professional practice.

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Background

The drive for clinically effective practice has resulted in the production of large amounts of information with the aim of improving professional practice and therefore patient outcomes. However,

the simple provision of information alone appears insufficient in changing practice (Freemantle et al 2001). The use of active implementation strategies to promote behaviour change such as audit and feedback can improve performance and therefore patient care. Feedback provides opportunities for individuals or groups to reflect on their own practice and to use this information to change future performance. General findings indicate audit and feedback can be effective in improving professional practice; effects are generally small to moderate. The absolute effects are more likely to be larger when baseline adherence to recommended practice is low (Jamtvedt et al 2003).

Intensive care practice

A literature search reveals there have been a small number of studies that have explored the effect of feedback on intensive care practice. The studies that have been undertaken have focussed on the frequency and effectiveness of hand washing, general infection control measures and the frequency of blood gas analysis testing. In the main, the research adopts an experimental approach and uses a variety of designs to measure the effect of educational interventions or audit and feedback on professional behaviour change. In general the studies report a short-term change in behaviour, however, they do offer important information about the effects of performance feedback on improving practice.

Conclusion

Studies are limited in terms of the identification of the long-term effects of feedback, the effects of feedback within a larger, multi-disciplinary context and the effects of feedback on a variety of other professional behaviours. This presentation seeks to review and analyse the evidence on the effect of feedback on professional behaviour change in intensive care practice and to formulate questions for further research.

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Potential for Hb and nHb organ donation: a retrospective medical record review on 7 critical care units in a 1900 bed hospital

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Introduction

Due to lack of suitable donors and growing waiting list mortality in organ transplantation, it has become intolerable not identifying the donor potential. The key to guarantee maximal input in the organ donor pool, is identifying the reasons of losing potential donors.

Study aim

Retrospective medical record review (MRR) entering data into the Donor Action* (DA) System Database and analyzing with DA Database reporting features, we wanted to assess the potential heart-beating (HB) and non-heart-beating (NHB) organ donors and to estimate the impact within the Donor Hospital Network (currently 100 donors) on the total number of potential organ donors.

Methods

The MRR process of 656 deaths from 7 "critical care" units reported between Sept. 1, 2003 and Aug. 31, 2004 were entered into the DA database and analyzed on their potential for being HB or NHB organ donors. Overall as well as unit specific results were generated.

Results

The algorithm of the HB donor suitability, generated 319 (49%) records (ventilated/ medically suitable), of which 269 (85%) had no signs of brain death (BD), 50 (15,6%) records showed symptoms of BD; 17/50 (34%) records formally BD diagnosed (3/17 (18%) records not identified as donor), 4/50 (8%) records with BD without formal diagnosis (3/4 (75%) records not identified), of the remaining 29 records (58%) 6/29 (20,6%) records were not identified. After profound analysis of the file, 8/50 records (16%) were medically unsuitable. The algorithm of the NHB donor suitability, generated 127 (19%) records medically suitable of NHB donation, of which 22 (17%) were excluded, identified as class I Maastricht criteria dead on arrival. Out of the 105 (83%) other records only 3 (2,8%) referrals took place resulting in 1 extraction procedure.

Summary

Analysis showed 42 records with symptoms of BD, of which 15/42 (35%) were referred officially, but of which 12/42 (28,6%) were never considered nor referred as potential donor. These preliminary data analysis show a potential growth of at least 28,6% in the HBD pool. The NHB donor pool is definitely underused pool with 2.12 more potential compared to the HB donor pool. These analyses are promising but need further investigation to stratify approaches and define weaknesses in the donor detection and identification process.

SESSION: RELATIVES AND PATIENTS IN ICU

Experiences of nurses interacting with foreign-language patients and their relatives in intensive care units

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Background

Language barriers complicate patients' access to the Swiss health care system (Spang, 2000) and affect care quality (Cioffi, 2003). When nurses enter into contact with patients today they can not take for granted any more that both nurses and patients share the same language (Weiss & Stuker, 1998). Little is known about how nurses experiences look like when interacting with foreign-language patients and their relatives in an intensive care unit.

Aim

The objective of this investigation is to contribute to a better understanding of nurses interacting with foreign-language patients and their relatives in an intensive care unit, and to generate base

line data for making suggestions how the quality of care can be improved.

Methods

Narrative interviews were undertaken with 15 nurses about the experiences they have made with foreign-language patients and their relatives in the intensive care units in the University Hospital of Basel (Switzerland). The data were analyzed using the method of qualitative content analysis developed by Mayring.

Results

The results show the wide range of experiences that nurses made when interacting with foreign-language patients and their relatives in an intensive care unit. One conclusion is that nurses are not sufficiently prepared to identify and ensure quality of care for foreign-language patients and their relatives.

Conclusion

There is an acute need for training in order to ensure and enhance quality of care for foreign-language patients and their relatives. The investigation identifies fields of intervention that enable enhanced nursing practice and describes specific suggestions for improvement. Fields for interventions include:

- to improve cooperation with professional interpreters, to support and further develop the nurses' existing language competence,
- to offer training and advanced training courses on topics such as migration & communication,
- to support nursing teams by integrating migration experts into practical care.

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The quality of life after ICU hospitalization: Our experience

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Introduction

Patients hospitalised in ICU are subject to rough manoeuvring, prolonged and heavy sedative treatments, which result in cognitive alterations for an undefined period. Our staff prepared a Follow-up service in order to analyse the psychophysical state after three and six month after discharge.

Aims

- Study of patients health after three/six months after discharge
- Aid strategies validity.

- Users' advantages.

Methods

- Perceived quality of life.
- Functional Independence Measure.
- Follow-up schedule
- SF-36v2tm

We have excluded from research cardiopathic or patients hospitalised for less than seven days.

Results

Total evaluated patients: fifty-four males, twenty-one women.

Discussion

PQOL: three months after discharge, it was seen that women have a better life quality perception than males, while this increased after six months for both sexes. Males have greater difficulty carrying out the same activities before hospitalisation.

FIM: males have less autonomy for daily activities, loss of memory.

FOLLOW-UP schedule: we observed a loss of concentration, more problems in daily activities than before hospitalisation. After, better health conditions and social relationships. Falling asleep and sleeping are compromised.

SF-36: results may be compared with the precedent scales.

Concerning our study we can assert that:

- There was significant communication with the patient.
- More help should be needed from the Physiotherapists because of remaining painful aftermath.

Conclusion

Various factors produce life quality. This must be considered as a multi-dimensional entity subject to Sanitary Programmes and relative to individual health perceptions.

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SESSION: PAIN AND SEDATION IN ICU

Nursing education and organization impact on the evaluation and treatment of acute pain in an emergency department.

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Aim

Pain evaluation and treatment are indicators of health care quality particularly in an ED in which it is the pain that pushes the patients to the presentation. The purpose of the study is to appraise the impact of the nurses' education and organization on the outcomes drawn by the principal guidelines available in the medical literature.

Methods

A perspective longitudinal cohort study has been realized: on three groups of 500 patients the prevalence of the pain has been measured, the initial pain intensity, the number of pain assessments, the quantity and quality of the analgesic treatment, the waiting time for the analgesia and number of the patients with pain intensity >3 at the end of the ED stay. The first sample has been observed as control without any intervention on the nursing staff. The second sample has been observed nine months later after the realization of an educational program to all nursing staff. The third sample has been observed another nine months later in which the pain assessment and the treatment has been emphasized in monthly meetings and after the realization of pain management protocol.

Results

The first observation has shown poor pain evaluations and long waiting time for analgesic treatment with a high rate of patients (36.3%) with pain > 3 at the end of the ED stay. A 20% increase ($p < 0.05$) of pain evaluations has been observed after the educational intervention while other significant improvements are not recorded in the observed outcomes. After the implementation of the pain management protocol improvements are observed in the number of pain evaluations (+42% $p < 0.01$), in the number of administered analgesics (+26% $p < 0.05$) with an increase in opiate prescriptions (+ 15% $p < 0.05$), and a reduction in the waiting time for analgesia (from 108' to 46' $p < 0.01$) and number of the patients with pain >3 at the end of the ED stay (-14% $p < 0.05$).

Conclusions

Education and the continuous implementation of pain management protocols inside the nursing staff improve the healthcare quality and the satisfaction of the patients as well as to influence physicians' attitude on pain, increasing the quantity and quality of the prescribed treatments.

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Introduction of a nurse implemented sedation protocol reduces sedative prescription.

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Aim

The prescription of sedatives and analgesia is common practice in every intensive care unit. It helps patients to tolerate invasive procedures, medical or nursing treatments and accept the frequently noisy surroundings by alleviating anxiety and distress [1]. Due to pharmacokinetics, pharmacodynamics and the patient's physical condition, sedative effects can be unpredictable. Thus undersedation and oversedation occur frequently [2]. Change in medical and nursing staff acknowledged the high dosage of sedatives prescribed

compared to previous experiences. A multidisciplinary taskforce was formed. With the reduction of sedative prescription as a primary target it was decided to develop and install a sedation protocol.

Methods

Design: prospective observational study with historical control.
Patients: all patients, admitted at our ICU, were included in the study.

Setting: the study was conducted at the 14 bed surgical ICU. This ICU is intensivist led, fully equipped.

Actions: the Ramsay Sedation Scale (RSS) was chosen as an easily workable and applicable sedation scoring tool [3]. It was decided to develop a nurse implemented sedation protocol. The ICU nurse is 24 hours a day beside the patient and therefore ideal for scoring with the RSS.

Armamentarium: midazolam, 1mg/ml; propofol, 20mg/ml; fentanyl, 0,05mg/ml. Fentanyl is an analgesic and not a sedative, but it has synergetic properties to sedatives. All solutions were administered with a 50cc syringe and an iv perfusor.

Implementation: The new protocol was introduced throughout the year 2000 and implemented after training all nursing and ICU staff members. To improve accessibility a summary of the protocol was included at the bedside chart.

Result

	1998	2001
total patients admitted	1093 (100%)	1030 (100%)
cardiac surgery	605 (55%)	634 (62%)
general surgery	263 (24%)	190 (18%)
neurosurgery	75 (7%)	65 (6%)
miscellaneous	150 (14%)	141 (14%)
number of ICU days	4464	5687
ICU stay median/mean	23 hour	23 hour

Table 1 Legends: characteristics of patients admitted 1998-2001 absolute numbers and percentages of total admission

	1998	2001
midazolam 5mg/ml, 10ml	239,50 mg/ patient/day	52,45 mg/ patient/day
fentanyl 0,05mg/ml, 0ml	2,46 mg/ patient/day	0,96 mg/ patient/day
propofol 20mg/ml, 50ml	580,96 mg/ patient/day	501,85 mg/ patient/day

Table 2 Legends: sedative consumption 1998-2001 in mg per patient per day.

Conclusion

The introduction of a nurse implemented sedation protocol was associated with a dramatic reduction of sedative prescription. This could not be explained by changes in case mix or length of ICU stay of the ICU patient population. We think that the implementation of the nurse based sedation protocol contributed significantly to this fall in sedative prescription.

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SESSION: TECHNOLOGY IN CRITICAL CARE

Application of technology across the life continuum: New Technologies in the Intensive Care Unit

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The communication age is taking over from the Information age, and the implications for healthcare are rapidly altering the healthcare industry. There are several areas where important paradigm shifts are taking place. Information and Communication Technology facilitates new possibilities in several areas, like telemedicine applied at a micro level contributes to re-engineering of the systems used to deliver care (1). Wireless technology is entering the point of care, and applications are rapidly becoming commercially available (2;3) creating new decision support systems. Minimally Invasive and Image Guided Therapy is less traumatic to patients, and contributes to shorter length of stay at the ICU and at the hospital in general. Traditional sub-specialist domains are changed, due to advances in technology leading to new modes of treatment based on cross disciplinary collaboration. Medical Informatics creates new fields of knowledge in bioinformatics, genomics (3) and MEMS/nano-technology. The breakthrough of Evidence Based Medicine changes the "art of medicine" into production oriented procedure development (4; 5), guided by Continuous Quality Improvement strategies inspired from industrial production. This presentation gives general examples from the topics mentioned above, clinical practice, and points at some areas where the current development affects Critical Care (6).

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Designing for the intensive care nursing process

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Aim

The aim of this investigation is to envision how, from a contextual user's perspective, the nursing process can be enhanced by means of future technology. The basic assumption is that in order to effectively apply technological innovations in the intensive care unit designers should start from the entire set of work processes involved. The results of this study are insights into the intensive care nursing process and a design approach implemented as a design proposal and a prototype.

Methods

Initial insights into the intensive care nursing process were acquired through observations at a range of intensive care units and interviews with intensive care personnel. Then, in order to get a more precise view of the user needs and requirements regarding intensive care nursing, this research was augmented with methods aiming to make the tacit knowledge of users more accessible (Melles and Freudenthal, 2004). For example, during participative sessions nurses were asked to create collages visualizing several topics and to then discuss them. In this way insights were revealed regarding contextual influences affecting nursing routines (e.g. the composition of the nursing team, questions of trainees) and work-related emotional values (e.g. the importance of humour as stress reliever, the attractiveness of the unpredictable character of an intensive care unit). In addition several user needs were identified and classified.

Results

Based on the insights acquired a computer-based tool has been designed (Melles et al, 2004). Point of departure of our design was that it respects the three different roles an intensive care nurse fulfils; nurse (relates to providing care and cure), expert (relates to training) and human being (relates to personal reflection). In each role, the same situation is approached from an entirely different point of view, requiring completely different information.

Conclusions

We are currently creating a prototype of our design, which will be tested with intensive care nurses at several Dutch hospitals. The various design presumptions and product features will be evaluated as well as their effects on the nursing process. These results will be generalized in the form of design guidelines for future intensive care products.

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Application of technologies in patient with temporary external ventricular circulation: nursing assessment using a critical care model

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In our department, we applied the nursing model of the critical care, which is the reorganization in our intensive care of specialised nurses who provide exclusive activities that only expert specialised nurses can carry out, entrusting the daily generic activities to support figures, under their own supervision and responsibility.

Since 1998 right ventricular external circulation by rotary pump for patients with cardiopulmonary insufficiency post-transplant has become available. The following data comes from a study covering the period 1998 to 2002 of 5 patients who have maintained the device between 4 to 18 days with survival of 80%. The nursing management with critical care model is oriented to this kind of patients to prevent the risk of infections, to maintain and support the vital functions, monitoring hemodynamic 24 h a day, promote early feeding and to guarantee the correct management of IV lines for the anticoagulation drugs. Optimal surgical technique and meticulous post-op management of wound are most important aspects to prevent the risk for infection. We assess skin integrity and dress the insertion site of the cardiac device in an exclusive way, using alginate and polyurethane film.

Such choices are evidence based and achieved from a constant post-graduate nursing education in updated biotechnologies.

SESSION: PAEDIATRIC LIVER TRANSPLANT CARE AND CHRONIC ILLNESS

Liver failure in children: building the bridge to recovery or liver transplantation

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Objectives

How to recognise liver failure? Why is it important to recognise liver failure in an early phase of the disease? How to optimize supportive care in acute and/or chronic liver failure?

Acute liver failure (ALF) in childhood

Acute liver failure (ALF) in childhood is a rare event with a high mortality rate. It is a complex multisystem syndrome reflecting a rapidly progressing, but potentially reversible, deterioration of liver function. The heterogeneous presentation and aetiology make recognition of ALF difficult and diagnosis is often in a late phase of the disease. For children no official international accepted consensus definition for acute liver failure exists. On the other hand early referral is necessary for timely admission to liver transplant centres to enable optimal conservative treatment, screening and proper preparation of these patients for liver transplantation (if indicated)

Clinical features ALF in childhood

Coagulopathy, jaundice, hepatic encephalopathy and/or hypoglycaemia.

Supportive care:

Respiration: Intubation and mechanical ventilation in case of respiratory failure or encephalopathy gr. 3-4. Avoid alkalosis in case of encephalopathy because of increase of NH₃-transport over the blood-brain barrier. Circulation: Circulatory changes associated with end-stage liver disease are hyperdynamic state, reduced systemic vascular resistance (SVR) and increased cardiac output, and low-to-normal blood pressure despite reduced plasma volume. Maintain adequate central venous pressure (5-10 mmHg). Hypotension can be treated with dopamine and/or (nor) adrenaline. Gastrointestinal: Prophylactic ranitidine/losec to reduce gastric acidity (pH>4). Lactulose to produce 2-3 stools per day. Protein intake 0,5-1,5 g/kg/day.

Infectious: Documented bacterial infection in 80% and fungal infection in 35% of patients with ALF justify prophylactic antibiotics. Most common sites of infection are the respiratory tract and the urinary tract. Metabolically: Constant dextrose supply to avoid hypoglycaemia. Avoid hyponatremia (140 mmol/l) in case of encephalopathy. No good correlation NH₄⁺-degree encephalopathy! Adrenal dysfunction is associated with ALF. Hematological: Poor correlation prothrombintime and bleeding tendency. Supplementation of vitamin K. Correction of coagulopathy with FFP and thrombocytes in case of bleeding or prior to invasive procedures. Keep platelets > 10 x 10⁹ In case of uncorrectable bleeding recombinant factor 7a. Avoid traumatic lesions e.g. temperature probe. Neurological: Observe for encephalopathy. Quiet environment with little stimulation and painful intervention to minimise acute increases in intracranial pressure. Avoid sedatives – benzodiazepines – because this can aggravate encephalopathy. Avoid hyperthermia. Consider ICP-monitoring in case of severe encephalopathy. Elevation of head 30 degrees in midline in case of encephalopathy gr. 3-4. Bio-artificial and extracorporeal liver support systems – e.g. Molecular Adsorbent Recirculating System.

Chronic liver failure (CLF) in childhood

Optimization of the pretransplant status (e.g. nutrition and growth) translates to better posttransplant outcomes. Chronic liver failure can progress into acute-on-chronic liver failure (supportive care as for ALF). Clinical features and treatment options CLF in childhood: Ascites (portal hypertension) - low sodium diet, diuretics, paracentesis +/- intravenous albumin administration. Bacterial infections and spontaneous bacterial peritonitis (induces renal failure) - antibiotic prophylactics.

Variceal bleeding - beta blocker, variceal banding, vasoconstriction (terlipressin, somatostatin, octreotide), TIPS = transjugular intrahepatic portosystemic shunt.

Hepatic encephalopathy (difficult to recognise mild encephalopathy) - removal precipitating factors (infection, haemorrhage, excessive protein intake etc), reduction nitrogenous load with lactulose and/or neomycin. Hepatorenal syndrome - development of renal failure (oliguria) in patients with advanced chronic liver disease who have portal hypertension and ascites due to renal vasoconstriction.

Hepatopulmonary syndrome – hypoxemia due to shunting and V/Q mismatch due to arteriovenous malformations in the lung.

Admitting post-operative paediatric liver transplant patients to the ICU

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Purpose

Preparation is necessary in order to effectively meet the critical needs of the post-operative paediatric liver transplant patient upon their arrival to the ICU following transplantation. The increasing number of children requiring liver transplantation services has made it evident that it is important to have guidelines in place for their initial and often specialized post-operative care.

Methods

The main goal is to provide the child with appropriate post-operative care and to recognize and quickly address complications. Therefore the ICU nurse will:

- Monitor the patient continually and conduct full assessments a minimum of 1 time/hour (airway, breathing, ventilation, perfusion, neurological status, etc).
- Observe the incision for signs of bleeding, evisceration, and dehiscence &
- Treat postoperative pain.
- Update family with findings, etc.
- See that appropriate post-operative studies (ultrasound, laboratory studies, etc) are completed.

Outcomes

Nurses in the ICU monitor the paediatric post-operative liver transplant patients very closely as outlined. This allows for quick recognition of problems and immediate intervention. It is the practice of these nurses to be fully aware of the patient's status as well as any changes that might be problematic.

Conclusions

Nurses are prepared to care for paediatric liver transplant patients and very carefully follow established guidelines for assessment. Following guidelines for assessing and caring for paediatric liver transplant patients upon admission to the ICU has proven to be effective in allowing nurses to quickly recognize complications and notify the appropriate clinician.

Quality of Care for the chronically ill child in the PICU

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Background:

Paediatric intensive care units (PICU) have significantly reduced childhood morbidity and mortality, and have generated a group of children with special care needs. These patients many of whom require long-term ventilation as a means of life support, accounts for a disproportionately higher amount of intensive care unit resources and have a prolonged stay on the PICU.

Aim:

To determine factors related to a prolonged PICU stay (> 4 weeks), and issues in the care of chronic paediatric intensive care patients for early quality and cost saving interventions.

Results:

Long-stay paediatric intensive care patients are defined as patients having a length of stay more than 4 weeks on a PICU. Overall, these patients were 3,2% of the population but represented 33,6% of the days of care. The length of stay (LOS) in the paediatric intensive care unit is a reflection of patient severity of illness and

health status, as well as PICU quality and performance. The most common issues in the care of chronic paediatric intensive care patients are the complex growth and development of the children surrounding indefinite hospitalization and the low priority for family-centered care.

Implications:

Focusing on the creation of innovative methods for integrating the growth and developmental needs of these special children, is a challenging and often overlooked aspect of paediatric nursing practice. This also concerns integrating family-centered care on the PICU.

Qualitative research is necessary to determine the needs and implications of such innovations for the child, family and the professional PICU-nurse. Further it is necessary to explore strategies to reduce the LOS of the chronic paediatric intensive care patients.

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SESSION: INTERNATIONAL RESEARCH

Research platforms in the Nordic Association for Intensive Care Nursing Research (NOFI)

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Background

In 2002 a group of researchers from Southern and Western Sweden took the initiative to start a network for intensive care nursing research in the Nordic countries. The first meeting took place in Gothenburg, Sweden, in August 2002 and included researchers from Denmark, Norway and Sweden. The participants were nurses with doctoral degrees and doctoral students conducting research in intensive care nursing. Registered nurses working in intensive care who were interested in research were also invited. Today the association has about 100 members.

Aim

The Nordic Association for Intensive Care Nursing Research strives to stimulate research by collaboration, networking and exchange of

knowledge in the Nordic context. Among the goals of the association are to collaborate on research projects in the Nordic countries, to apply collectively for research funding, and to arrange conferences and meetings for Nordic intensive nursing care researchers.

Current research

The network members' research has been categorized into three themes on the network homepage (www.nofi.info): Research related to (1) the patient perspective, (2) the family perspective, (3) nursing and education. The studies within these platforms will be presented in greater detail at the conference in order to give a picture of the ongoing Nordic research in intensive care nursing. Since 2002, four meetings have conducted annually. These meetings consist of two parts; reporting research findings and discussions in the different groups that are interested and engaged in the same platforms.

Implications

Intensive care research may be facilitated and improved by network collaboration. Shared funding and the common goal of optimising research quality increases the rational use of available resources.

Comparative Evaluation of QOL in Haemodialysis and Kidney Transplantation Patients

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Background

As the life expectancy increases and science has shown to able to prolong life, the incidence of Chronic Renal Disease (CRD) will continue to increase. Quality of life (QOL) is an important concern in health care and the allocation of health care resources. It changes following any major changes in people's living e.g. becoming unemployed, having acquired higher education or becoming chronic ill.

Purposes

The purpose of the study was determination and comparison of QOL in haemodialysis and kidney transplantation (KTP) patients referred to the educational hospitals of the university, nephrology and renal clinics of mashad in 2003.

Materials and Methods

This research is a descriptive - analytic study. Study population was 210 persons which consisted of: 100 KTP patients were admitted to nephrology and renal offices and 110 chronic haemodialysis patients in haemodialysis centres. The samples age was between 17 to 45 years. The groups were matched for age, sex and level of education. The tool for collecting data was SF-36 questionnaire for evaluation of quality of life. It had questions about physical and social situation and ability for daily activities and sensuous condition. The second tool was Visual Analogue Scale (VAS) for evaluation of overall QOL and demographic information questionnaire.

Conclusion and results

The results of this research showed KTP patients had better for overall healthy thinking and physical condition ($P<0.000$) and ability for daily activities ($P<0.000$) and sensuous condition ($P<0.000$), in comparison with haemodialysis patients. But we did not find sig-

nificant difference between both groups for social status ($P>0.05$). The results showed overall quality of life was better for renal transplantation patients in comparing with haemodialysis patients ($P<0.000$). In generally these results approved QOL level KTP patients to be higher than haemodialysis patients.

Development of a database for Danish Critical Care Nurses

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Background

Denmark is a small country, with approximately 50 intensive care units offering mechanical ventilation. Only few nurses in the country are prepared at the doctoral level, whereas more have obtained master's degrees in nursing or affiliated fields. This means that research into critical care nursing has been scarce. In 2003 a network of critical care nurses was formed in order to promote information sharing and stimulate clinical research in critical care nursing. The network served its purpose as nurses have been able to contact each other on subjects of practice and research. The next logical step was seen as a database for information sharing and debate.

Aim

The first phase has been to create a database with demographic and clinical research information on Danish intensive care units. The second phase will be the development of a clinical database with clinical practice and patient information for research purposes.

Results

The first phase of the database was opening a home page in February 2005 in collaboration with the Danish Nurses Organization (DNO). It was possible to link the homepage to the DNO homepage for critical care nursing, which has rendered the project expense neutral. The initial data includes a description of each intensive care unit in Denmark. It provides demographic information about patient population, staffing and current research. The next step is to obtain more information about each study which has been conducted or which is in progress.

Implications

The database will serve as a vehicle for information sharing and will make it easier to identify venues for multi-center research regarding critical care nursing. Hopefully the site will also encourage interdisciplinary studies and knowledge sharing with other groups in the health care field.

SESSION: MUSIC THERAPY AND SURVIVAL IN THE ICU

Music therapy - a complementary treatment: For mechanically ventilated intensive care patients

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Aim

The aim of this study was to ascertain whether music therapy had a measurable relaxing effect on patients who were temporarily on a respirator in an intensive care unit (ICU) and after completion of respirator treatment investigate those patients' experiences of the

music therapy.

Methods

In the study both quantitative and qualitative methods were applied. Twenty patients were included using consecutive selection. The study group listened to the music whilst the control group rested under similar circumstances.

The quantitative part of the study was concerned with measurement of objective parameters. Data were recorded at five-minute intervals during the period of intervention. Quantitative data was analysed using repeated measurements and paired samples. Qualitative data, i.e. the interview material, was analysed by content analysis. Consent for the study was obtained from the Regional Committee for Medical Research.

Results

Repeated measurements showed no significant differences between the two groups, nor were there any differences over time. Paired t tests, however, showed significant mean differences between two points of measurement on systolic, diastolic and heart rate in the study group. No significant differences were found in the control group.

During interviews, it was shown that the patients remembered little of their time on the respirator. Patients recounted feelings of anxiety and discomfort in connection with respirator treatment. It was apparent also that constant light and noise was a source of discomfort. From the interviews it was apparent that there were also difficulties in distinguishing night and day. One patient considered that there was a great sense of security when he had his family around him.

Conclusions

Intensive care nursing staff can beneficially apply music therapy as a non-pharmacological intervention.

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Use of music therapy in early brain injured patients?

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Traumatic brain injury is a major public health problem, especially among male adolescents and young adults ages 15 to 24, and among elderly people of both sexes 75 years and older. Children aged 5 and younger are also at high risk for traumatic brain injury. Traumatic Brain Injury, also called acquired brain injury or simply head injury, occurs when a sudden trauma causes damage to the brain. The damage can be focal, confined to one area of the brain,

or diffuse involving more than one area of the brain. Symptoms of a traumatic brain injury can be mild, moderate, or severe, depending on the extent of the damage to the brain. Some symptoms are evident immediately, while others do not surface until several days or weeks after the injury. A person with a mild TBI may remain conscious or may experience a loss of consciousness for a few seconds or minutes. The person may also feel dazed or not like himself for several days or weeks after the initial injury.

This paper discusses:

- What is the EBN for I.C.P. management?
- What is the EBN for early sensorial stimulation?

Finally we would like to present a randomised study, that has began this year in our emergency department, which aims to compare patients cared with music therapy and patients cared without this intervention. In the first group we use classic music and/or music they prefer (we ask for it to parents or friends) and we monitor data and signs (vital signs, ICP, GCS, pain scale, ventilation data, etc); the same we monitor in controll group, without the music. The result could mean how the music modifies the assessment and the trauma management.

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SESSION: EDUCATIONAL PROGRAMMES

Problem based learning in critical care

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Background

Nurses novice to the critical care environment currently undertake a six-month university based course. The course is directed towards the learner's accumulation of propositional knowledge. However, it is recognised that developing life-long learners also requires the ability to apply that knowledge to the clinical area (UKCC 1999). These practice skills are taught and assessed by clinicians.

Aim

To undertake yearlong problem based learning (PBL) to evaluate the potential PBL has to:

- Encourage the development of problem solving skills
- Facilitate theory to practice application
- Foster effective team working

PBL is a student-centred approach whereby learners are presented with 'problems', which as a group they have to resolve (Wilkie and Burns 2003). Price (2003) described PBL as a synthesis of theory and practice and suggested it as an ideal learning strategy for nurse education.

Results

The effectiveness of the PBL programme was assessed by means of a pre and post MCQ that had been piloted by senior nurses to

ensure content validity. 18 nurses participated in groups of 3-4. The results demonstrated an improvement in the application of theoretical knowledge to resolve practice-based problems.

Implications

PBL was successful in fostering a supportive learning environment for nurses new to critical care, resulting in genuine improvement in knowledge application. Future programmes will include senior nurses in PBL. An improvement of the evaluation-tool, which will include both quantitative and qualitative methods of data collection.

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From knowledge to competence within intensive care nursing

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Aim

The aim of this study was to describe and analyse what knowledge content is learnt in the study program and what competence is developed in the profession during the first year of working in intensive care.

Method

Data were collected via questionnaires and interviews on two different occasions. The sample consists of one annual cohort of students (n=221) from all the higher education institutions in Sweden (n=18) where specialist study programs (60 ECTS) for nurses in intensive care were offered in 2000. Chi-square was used to test for any differences between variables and groups, respectively, and Mc Nemar was used to analyse changes. Content analysis has been used to analyse questions with open answers. Interviews (n=7) were carried out for further elaboration of the answers in the questionnaire.

Results

The research group as whole rate learning highest in the knowledge and competence areas, which are related to monitoring and medical treatment, both at the end of the study program and after one year of professional practice. At the end of the study program, the relation-oriented areas of ethics and communication are considered to be equally important to the professional function, although they take longer to learn. However, after one year in the workplace, ethics was no longer considered to be as important. In the case of academic schooling, the group with a nursing education after the 1993 reform rated their competence higher than the group with an older nursing education. The group with previous ICU experience considers this competence to be more important to the professional function than the group without ICU experience.

Conclusions

The relative incongruence between the students' rated competence and the competence required in the health care sector indicates that we have an important task to further influence the educational and health care systems to increase the academisation process.

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Acute care teaching in the undergraduate nursing curriculum.

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Care of the acutely ill patient on general hospital wards is sub optimal (McQuillan et al, 1998). Several initiatives have been implemented within the hospital setting to improve suboptimal care at ward level through the introduction of Early Warning Systems (EWS), Outreach and ALERT training. The underlying principle of these initiatives is to improve the identification and management of 'at risk' patients through the education of staff on general hospital wards. However, these initiatives are aimed at qualified medical and nursing staff and fail to address the real issue of improving knowledge and skills in undergraduate medical and nursing curriculum.

At present care of the acutely ill patient and resuscitation are poorly represented in the both medical and nursing undergraduate curricula. It has been recommended that current medical and nursing undergraduate education is in need of review (GMC, 2002; Scholes et al, 2004). Queen's University Belfast is the main provider of undergraduate medical and nursing education in Northern Ireland (NI) and it recognises that future curricula should incorporate teaching on care of the acutely ill patient to ensure fitness for practice.

The aim of the proposed curricular changes are to implement an acute care module into the undergraduate nursing programme which will provide an opportunity for the development of interprofessional education (IPE) and form a bridge between pre and post registration teaching. This paper will focus on the development of the acute care module which incorporates several initiatives currently available to registered staff (ILS, ALERT) to ensure that all nurses on the adult branch of the undergraduate programme will have the necessary knowledge and skills required to care for Level 1 patients as described by the Comprehensive Critical Care document (DoH, 2000).

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Technical, Interpersonal and Critical Thinking Competency Assessment:

A Systematic Approach

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Background Competence is more than possessing the knowledge or psychomotor skills necessary to perform a specific task. For professional nurses, competence means that the caregiver integrates knowledge, skills and personal attributes consistently in daily practice to meet established standards of performance. The significant growth in key clinical hospital services requires educators to examine nursing competency to evaluate areas that need reinforcement in order to guarantee the high quality of care required by the JCAHO standards.

Aim: Competencies are needed to measure critical thinking and clinical decision-making abilities, or are necessary as a result of findings from quality-improvement data. (b)

Result: To assess nursing competency a methodological plan had to be established. (a)

Competencies have two major components: the first is a competency statement describing the general performance standard; the second is a list of criteria describing the tasks required to ensure that the general performance standard is met. (c)

Before beginning the competency development process, four important aspects had to be considered: outcome, category, learning domain and audience.

Expected outcomes were clearly defined based on pre-established goals with the aim of assessing acquisition of a new skill or of validating existing knowledge and skills.

Competencies were selected as generic for evaluating the skills and knowledge needed to execute less complex nursing interventions, or advanced in order to evaluate those needed for more complex interventions. Identifying a particular learning domain was needed to address competencies. Novice nurses needed a high percentage of psychomotor competencies, whereas competent nurses needed validation of higher level competencies. Clear identification of the target audience promoted understanding of the intent of the competencies.

Implication: Competency assessment has been proved as a valid tool for building long-term continuous improvement of high quality nursing care.

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SESSION: PEADIATRIC CRITICAL CARE

Withdrawal symptoms of sedation and analgesics in PICU

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Prolonged administration of benzodiazepine and/or opioids to children in a paediatric intensive care unit (PICU) may induce physiological dependency and withdrawal symptoms. The literature describes several withdrawal symptoms in PICU population (see table 1). Symptoms of benzodiazepine and opiates withdrawal can be divided in two groups: central nervous system (CNS) effects and autonomic dysfunction. Symptoms of gastrointestinal dysfunction have only been described in opioid withdrawal. There is an overlap between benzodiazepines and opioids withdrawal symptoms in respect of the groups CNS irritability and autonomic dysfunction.

CNS irritability	GI dysfunction	Autonomic dysfunction
Increased muscle tension	Vomiting	Fever
Tremor	Poor feeding	Sweating
Myoclonus	Diarrhoea	Tachypnea
Motor disturbance / Movement disorder		Yawning
Inconsolable crying		Tachycardia
Sleep disturbance		Hypertension
Muscle cramps		Coughing
Hallucinations		
Seizures		
Pupil dilation (>4mm)		
Irritability		
Anxiety		
Agitation		
Grimacing		
Restlessness		
High pitched crying		

Table 1 Benzodiazepines and opioids withdrawal symptoms in critically ill children

There are two scoring systems to determine withdrawal symptoms: Sedation Withdrawal score (SWS) and the Opioid Benzodiazepine Withdrawal scale (OBWS). Both assessment tools are insufficiently valid and reliable for use in the PICU.

We therefore aim to prospectively develop an assessment tool for measuring withdrawal symptoms. The first step is to describe the frequency of symptoms found in the literature study. Table 2 shows our symptom list. This study is currently under way. The first results will be presented.

Heart rate (tachycardia)	Increased muscle tone	Sweating
Arterial blood pressure (hypertension)	Inconsolable crying	Yawning
Breathing rate (tachypnea)	High pitched crying	Spots
Tremors	Grimacing	Sneezing
Motor disturbance	Pupil dilation	Vomiting
Agitation	Convulsions/ seizure	Diarrhea
Anxiety	Hallucinations	Poor feeding
Sleeping pattern	Fever	Feeding retention

Table 2 withdrawal symptoms list

BIS Monitoring to improve Sedation Strategies in PICU

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Introduction:

The administration of sedative drugs in ventilated paediatric patients is a fundamental component to provide optimal comfort care in order to avoid the adverse effects of anxiety and pain. It is common practice to assess the effectiveness of these interventions with sedation scores. A disadvantage of these scores is that as with many subjective tools, the results are prone to inter-rater inconsistencies. Their usefulness may also be limited in deeply sedated patients and in those who receive neuromuscular blocking agents. Objective sedation assessment tools would be helpful, especially in the group of patients mentioned before to avoid over- or under-sedation.

Method:

In contrast to the scores used in clinical settings the Bispectral Index monitoring provides a non-invasive but direct and continuous measurement of the brain status. A sensor with four electrodes is attached to the patient's forehead. The signals are transferred to a digital converter and a monitor that displays both – the EEG curve and the BIS Index. The BIS Index is a number between 0 and 100 and reflects the hypnotic level of the patient. BIS values of 0 indicate an isoelectric EEG; a value of 100 is equal to full consciousness. BIS values in the range of 60 – 80 indicate moderate to light sedation as values below 60 are chosen for general anaesthesia and deep sedation.

Conclusion:

BIS Monitoring is more and more common in paediatric intensive care. Several studies have shown significant correlation between the BIS Index and the commonly used sedation scales but without the subjectivity and limitation that accompany these observational measures of sedation. BIS monitoring as a new and accurate technology may be able to improve sedation management and comfort care, especially in patients with deep sedation and neuromuscular blocking.

Nevertheless, BIS Monitoring is an adjunct to clinical judgement, not a substitute for it.

SESSION: ARDS & CRITICAL CARE COMPETENCIES

Blow up the balloon: Can the lung survive ARDS?

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In the last decade, important advances in understanding the heterogeneity of acute respiratory distress syndrome (ARDS) ventilator-induced lung injury, and the potential effects of ventilator-induced lung injury in contributing to multiple-organ dysfunction syndrome led to the development of “lung-protective” conventional ventilation strategies emphasizing use of reduced tidal volumes and inspiratory plateau pressures. The publication of the ARDSNet study, demonstrating reduced mortality using a low tidal volume, low inspiratory plateau pressure protocol, has set a new standard of care for patients with ARDS. An important ancillary finding in this study was that better oxygenation does not always equal a better lung or better survival. Indeed, survivors in the low tidal volume group sometimes had worse initial oxygenation responses than non-survivors in the high tidal volume arm. In addition to lung-protective mechanical ventilation strategies for patients with ARDS, progress has been made in the integration of fluid and hemodynamic management, sedation/analgesia/neuromuscular blocker use, pharmacologic adjuncts, and ventilation adjuncts (e.g., prone positioning, lung recruitment manoeuvres).

Throughout the past decade, basic and clinical research on the use of alternative methods of mechanical ventilation for severe ARDS was ongoing. High-frequency oscillatory ventilation (HFOV) continued to be investigated and used by clinicians, particularly when patients were thought to be failing conventional ventilation. Evolution of clinical HFOV use over the last decade has included: earlier intervention (rather than last resort use), setting endotracheal tube cuff leaks to facilitate CO₂ elimination, use of higher frequencies (Hz) and lower oscillatory pressure amplitudes to facilitate lung protection, allowance of shallow spontaneous breathing (not all patients require paralysis), integration of lung recruitment manoeuvres and combination of “rescue” HFOV with other adjuncts (e.g., prone positioning, inhaled nitric oxide). Advances in understanding and therapy of ARDS will be discussed with emphasis on HFOV as a lung-protective ventilation strategy.

Critical Care competencies: a 360 degree perspective

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This paper will examine the generation and use of critical care competencies from a multiple stakeholder perspective. First, through the lens of the commissioners of critical care education, secondly, through the professionals’ lens, thirdly from the perspective of students and staff and finally from the perspective of patients and their relatives. The arguments presented in the paper will be based on recent national research, engagement as a consultant to competency generating projects and finally from personal experience.

SESSION: NEONATAL CRITICAL CARE

NICU treatment: when do we start and what are the consequences

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The tremendous advances in perinatal and neonatal care that were made beginning in the 1970s and through the 1990s have contributed to the survival of infants as immature as 22 to 25 weeks of gestational age.¹⁻⁴ According to current guidelines developed by the American Academy of Pediatrics for the use of neonatologists when counseling parents,⁵ it is considered appropriate in the USA not to initiate resuscitation for infants younger than 23 weeks of gestational age or those whose birth weight is less than 400 g, given the dismal prognosis for these infants. The involvement of the family is considered critical to the decision-making process with regard to resuscitation. However, these guidelines continue to be controversial, and the families of infants born at 21 or 22 weeks of gestational age may pressure clinicians to resuscitate these infants in the USA. On the other hand, in countries like The Netherlands, there is genuine concern about the rate of functional neurological disability and developmental delay in children who are born extremely preterm. Resuscitation is not initiated for infants younger than 26 weeks of gestation.

The birth of extremely immature infants is becoming more common as a result of the increasing rate of premature births,⁶ advanced maternal age, the increased use of assisted reproductive technology. Data on outcomes from large studies are therefore critically needed to guide decision-making. One of the challenges, however, in assessing long-term outcomes is that the practices in antenatal and neonatal care are continually evolving — the outcomes for infants born in 2005 will reflect practices in neonatal intensive care units that differ from the standard practices of previous years.

Recently, Marlow et al. reported outcomes at 6 years of age among children born at 25 or fewer completed weeks of gestation born in 1995 who were enrolled at birth in the EPICure study⁷. The report by Marlow et al. included the results of comprehensive assessments of the status of neuromotor skills, cognitive ability, vision, and hearing.

Among these extremely preterm infants, neonatal survival to discharge was low: 1 percent among those born at 22 weeks of gestation, 11 percent at 23 weeks, 26 percent at 24 weeks, and 44 percent at 25 weeks. The rates of survival with no disability at 6 years of age were even more troubling: none among infants born at 22 weeks of gestation, 1 percent at 23 weeks, 3 percent at 24 weeks, and 8 percent at 25 weeks. This study shows our limitations not only in saving such infants but also in supporting the neurologic and cognitive development of those born at the lower border of viability. However, when one looks closely to the study results, some good news emerges as well. Whenever a 25 week old female preterm baby remains alive during the neonatal period, her chances of having no or only mild abnormalities at 6 years of age are 64%, while a very severe handicap is present in 17% of the girls. In comparison, a similar aged boy has a 41% chance of suffering of a severe handicap.

These data shows our limitations not only in saving such infants but also in supporting the neurologic and cognitive development of those born at the lower border of viability. However, large individual differences occur, making it unjustified to withhold treatment to whole groups of premature infants born at 24 and 25 weeks of gestation.

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Moral dilemma's for neonatology nurses. A qualitative study about ethical dilemma's in Neonatology

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Objective: This study is aimed at answering the question how nurses are defining an opinion in moral dilemmas. Moral dilemmas arise in discussions on whether or not to continue a treatment for neonates in a neonatal intensive care unit (NICU).

Methods: The qualitative research method developed by Maso (1994) has been used. Data generation took place by means of semi-structured interviews with nurses working in the NICU of the Wilhelmina Kinderziekenhuis (Academic Children's Hospital in Utrecht). The theories on the justice and care perspective (Kohlberg, 1984; Gilligan, 1985) make up this study's theoretical framework. The literature review shows that both perspectives can play a role in moral reasoning, which is confirmed by the results of this study. In the moral reasoning of the nurses interviewed in this study the emphasis is on the approach from the care perspective.

Results: In their moral reasoning neonatology nurses especially focus attention on the child. In their considerations the following aspects play a role: the present situation, the future situation, and the child's environment (parents). The study further explores and explains the aspects they consider to be important. Especially the themes 'the child's pain and suffering' and 'looking at the child' are part of the specific know-how of neonatology nurses and should be developed further and should be put into practice more.

In this study also:

- the nurses seem to be insufficiently aware of what (individual) values are and how they could deal with these, and this weakens their process of moral reasoning.
- the dependence on the physicians seems to influence their moral reasoning in such a way that it impedes the nurses in defining an opinion independently.

In the presentation the implications of this study for the role of the

nurse will be explained and several recommendations for practice and education will be given.

"For only when nurses begin to hear their own voice, can they begin truly to participate in the broader, clinical ethical decisions that are such a concern in health care today" (Smith, 1996)

SESSION: PATIENTS' EXPERIENCES IN ICU

Mechanic ventilator treatment: patient experiences

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Aim

The purpose of this study is to identify the experiences based on nursing applications being employed on the patients who were treated with Mechanic Ventilator (MV) and the difficulties these patients have suffered from.

Methods

The research has been conducted in the intensive care facilities of Gülhane Military Medical Academy (GMMA) within the time frame of Sept.2004 and Feb.2005 via a qualitative design in order to identify the experiences of the patients who were at least eight hours awake and exposed to MV treatment. Ten patients have been included in the research. In order to collect data, a semi-structured interview form has been used. During the preparation of the questions in the form, previous efforts and the data from a pre-interview which had been conducted with two patients have been used. The headers in the interview form were as follows: problems arising from intensive care setting, communication, stress causing symptoms, family difficulties and experiences related to nursing care. Interviews have been employed at a convenient time within a week according to the patient after he or she was treated with MV Treatment and left the intensive care unit. Experiences expressed by the patients were noted by the researchers during the interview.

Results

All of the patients expressed that they felt dependent and constrained during the MV Treatment; nine patients expressed that they feared of death and aerial starvation; seven of them suffered from pain related to intubation. All of the patients declared that they felt comfortable with nurses along with themselves during the treatment and their informative attitude. They said it helped them feel safe.

Conclusions

MV is a stress and fear giving experience for patients. Nurses have a major role in coping with this experience. Nurses should be more informed on and experienced in MV and the way they communicate with the patients treated with MV treatment.

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Testing the ability of nurses to identify the needs of the relatives of ICU patients. An example of working together achieving more.

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Aim

- to collect data relevant to demonstrate the ability of critical care nurses to identify the needs of the relatives of the critical care patients;
- to involve a high number of staff nurses in the project with short resources;
- to examine an issue that could affect the quality of the critical care nursing with consequent projects.

Methods

To know the ability of the critical care nurses in identifying the needs of the relatives of the ICU patients is essential to orient the educational events and the use of resources and activities of a nursing association. The problem was identified by the council of representatives critical care nurses at national level. A selected group defined a rough project and a nurse expert in research was contacted for general supervision. The project of the research was developed, tested and defined. The needed financial and human resources were granted by the national association.

A wide group of ICU's with one nurse as reference for the research was identified on a basis of volunteer application. All forms, questionnaires, letters of authorization, procedures were defined and distributed to all the ICU's included in the research.

Results are based on 560 questionnaires, of which 270 of relatives and 290 of nurses, collected in two years time.

Results

The needs most frequently indicated by the relatives were those for receiving more information and support and by nurses were for better information as well.

The scales of the needs identified by the relatives and by the nurses were compared and resulted almost equal, meaning that nurses are properly identifying the needs.

Conclusions

- an organisation is essential;
- financial resources can be reduced by involving volunteers of an association;
- the abilities of nurses were appreciated;
- the needs identified suggested changes in the ICU's;
- need for further inquiry.

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Nursing matters: a patient's account of emergency trauma care

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This paper will critically examine the experience of being a trauma patient and how healthcare interventions impacted upon the transition to patient. This is an account of a researcher used to standing beside critical care practitioners observing and interviewing them about the work they do, to a patient lying on a trolley looking up at them.

Latterly, there has been a great deal of media attention about the declining standard of basic or fundamental nursing care. Indeed, careful scrutiny of the media would lead one to conclude that the first casualty in an accident and emergency department is nursing. The factors that have led to this decline are multi factorial but can not totally excuse the absence of care. Furthermore, it is not only the absence of care but cast away gestures and comments that can wound and traumatise the patient further. Juxtaposed to this, are the moments of nursing excellence, which help to alleviate pain, fear and confusion.

This paper will attempt to deliberately dissect the minutiae of these powerful memories with the aim of engaging the audience in reflection on how they can make a difference to their patients and work with colleagues to fully restore the art of care in critical care communities of practice.

What are the experiences of patients waking from anaesthesia post fast-track cardiac surgery? A phenomenological study

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Aim

To explore and describe the lived experiences of patients waking from anaesthesia post fast track cardiac surgery.

Method

A phenomenological method was used to allow the researcher to gain a glimpse of the reality experienced by this group of patients. The lived experiences of the participants arose through the process of gathering experiential descriptions of their recollections of their immediate post-operative time in the critical care unit. Using purposive sampling, thirteen participants gave their informed consent to participate in the study. A Husserlian approach was utilised and taped unstructured interviews with the aid of an interview schedule was used to collect data. Giorgi's (1985) framework was used to guide data analysis.

Results

Thematic analysis was used to uncover the structure of the experience. Formulated meanings developed from the interview transcriptions were organised into individual constituents and then clusters of themes. Four main themes emerged from the data. They were: physical sensations during waking, the emotional/psychological experience of waking, the presence/ role of others and the critical care environment itself. The findings of this study revealed a wide variety of both positive and negative experiences of waking from this new modality of surgery.

Conclusion

Whilst the study by its naturalistic, interpretive nature was never intended to produce data that was generalisable to all fast track patients, heightened insight has been achieved into the experience of this particular group of critical care patients. The clinical implications of the study are that nurses play a vital role during the immediate post-operative period post fast track cardiac surgery that has greater depth than the more widely recognised technical aspects of their role. Through their use of communication, nurses can have a significant impact on facilitating a less stressful recovery for these patients which may lead to improved physical and psychological surgical outcomes in the future.

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SESSION: PAIN, COMFORT AND COMPLEX CARE

Neonatal pain management and its implications for the clinical setting

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Pain in preterm and term neonates is a key issue in the context of neonate intensive care, especially since many diagnostic and therapeutic procedures are painful. Most of the painful interventions, involved capillary blood sampling by heel stick, followed by endotracheal suctioning. Preliminary intermediate results from a study in Switzerland involving a random sample of the vulnerable group of intubated preterm neonates during the first 14 days of life showed a total number of 4'092 interventions among 11 children alone, 64,8% of these interventions were related to intubated preterms with a gestational age under 28 weeks (Cignacco et al. 2005). Therefore greatest attention needs to be paid to systematic pain management in neonatology. Although the accumulated evidence states, that repetitive pain is harmful in newborns, the clinical experience shows that neonates are subjected to many painful procedures per day without receiving any pharmacological or non-pharmacological analgesic support.

A precondition for a sufficient pain treatment procedure is the adequate appraisal of the pain with valid and reliable pain assessment tools which have been proved to be clinically applicable and encounter a high degree of acceptance by the nursing staff. For pain treatment pharmacological interventions are based on a variety of different medications. However significant side effects are associated with analgesics. Therefore non pharmacological method of pain prevention and relief are increasingly being recommended.

The implementation of a systematic pain management requires specific and repetitive training for all nurses and doctors of a neonatal intensive care unit and the appraisal of pain should be a fixed constituent part of neonatal care. Guidelines for pain management in NICUs should be developed for the specific clinical setting. In order to achieve the best possible quality in the pain management of neonates, the role of the clinical nurse pain specialist is of crucial importance.

Implementation of the COMFORT©behavior-scale for assessing pain in infants and children in ICUs.

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Background

Young children are often unable to express feelings of pain. In their perception, pain, anxiety, discomfort and perplexity often intermingle. Their pain might be reduced using appropriate medication. The Erasmus MC-Sophia Children's Hospital has introduced the COMFORT© behavior-scale for routine assessment of pain. Daily assessment gives us greater awareness of the children's pain and wellbeing. It also enables us to administer pain medication more systematically and to avoid ad hoc medication as much as possible.

Aim

Implementation of the COMFORT© behavior-scale - linked with an algorithm for medical and nursing interventions – in our PICU and NICU, in order to attain unambiguous pain treatment policy.

Method

A structured implementation plan was developed, including:

- (1) Information supply: nurses were informed through clinical lectures and newsletters.
- (2) Time schedule: staged implementation in each unit.
- (3) Educational program: provided theoretical and practical training.
- (4) Test period: test scores to test interrater reliability were made and nurses' and physicians' opinions about the instrument were obtained.
- (5) Follow up: guidelines tailored for each ward for future use were laid down.

Results

The COMFORT© behavior-scale has now been implemented in both, the PICU and the NICU in our hospital, and integrated in daily care. So far 220 paediatric nurses have been trained. Staff are generally more alert to children's signs and discomfort. It appeared that the instrument needed adaptation for use in the NICU. A revised version, the COMFORT neo-scale, has meanwhile been validated. We also set up a training course for other hospitals in the Netherlands. To date 64 PICU and NICU nurses from 11 hospitals have participated.

Conclusion

Unambiguous use of the COMFORT© behavior-scale or the COMFORT neo-scale stimulates validated pain treatment policy in paediatric and neonatal ICUs and thus contributes to effective pain treatment in hospitalized infants and young children.

ECMO: complex care for respiratory failure in newborns

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ExtraCorporeal Membrane Oxygenation (ECMO) is a rescue therapy used in (full-) term newborns with severe but reversible respiratory failure. In ECMO, venous blood is drained from the right atrium and is pumped by a roller pump to an artificial lung. Here, the venous blood is enriched with oxygen and then returned to the circulation of the patient, either in the aorta (veno-arterial ECMO) or in the right atrium again (venovenous ECMO). Usually ECMO is applied is newborns suffering from meconium aspiration syn-

drome, sepsis and congenital diaphragmatic hernia. These patients have a disturbed gas exchange at alveolar level and also a persistent pulmonary hypertension. Sometimes there is only persistent pulmonary hypertension of the newborn without one of the underlying diseases, the idiopathic form. Patients qualify for ECMO treatment when they have a very bad oxygenation state for several hours as determined by the alveolar-arterial difference in oxygen tension or by the oxygenation index, despite maximal conservative therapy. They are likely to die when they are not treated with ECMO: 50-100%. The survival rates with ECMO treatment are 50-90% depending on the underlying disease. The main complications of this treatment modality are neurological: cerebral haemorrhages and infarctions, both related to the pré-ECMO disease state and ECMO treatment. Because of the compromised cardiorespiratory functions before the initiation of ECMO and the complications than can occur during ECMO, patients that are treated with ECMO have an increased risk for adverse neurodevelopmental outcome. They are therefore in a special follow up program.

Due to recent new developments in the treatment of newborns with respiratory failure (nitric oxide, HFV), internationally, the number of newborns needing ECMO treatment for respiratory failure is decreasing. On the other hand there is an increasing need for temporary circulatory support after cardiosurgery. This can also be done by ECMO, for this indication mostly named ExtraCorporeal Life Support (ECLS). Survival rates are about 40-50%. ECMO is a complex technique. Many disciplines are involved and are necessary for its success. In our hospital the organization around ECMO is a bit different from that in many other centres where special ECMO teams are functioning. We consider ECMO as one of the treatment modalities of respiratory failure and therefore every physician and nurse working in our department must be able to take care of this patient group.

SESSION STAFF SUPPORT AND DEVELOPING THE WORKFORCE

A nation-wide project for the revision of the Belgian Nursing Minimum Dataset: from concept to implementation

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Background

The Ministry of Public Health commissioned a research project to a research team to revise the Belgian Nursing Minimum Dataset (B-NMDS) for six care programmes. The study started in 2000 and will end in 2006.

Study objective

The revision should take into account the changes in nursing practice, the international development of nursing languages and classifications, the changes in healthcare management and the need for integration with the hospital discharge dataset.

Methodology and procedure

For the revision of the B-NMDS a very strict plan is followed based

on two main streams: 1) using panels of expert nurses and NMDS-coordinators to build the acceptability of the tool and 2) making use of existing and new empirical nursing data for developing a high-quality valid and reliable tool. The first phase (June – October 2002) implied the development of the conceptual framework based on literature review and secondary data-analysis. The NIC-language was selected as framework for the revision. The second phase focused on the language development (November 2002 – September 2003) with panels of clinical experts (N=75) for six care programs. A draft instrument, using NIC, was developed during this period (1). The third phase (October 2003 – December 2004) focused on the data collection and validation of the new tool. The new NMDS was tested on 158 nursing wards in 66 Belgian hospitals from December 2003 until March 2004. (N=100.000 inpatient days). These records are linked with the hospital discharge dataset and other mandatory datasets. The interrater-reliability, the criterion-related validity and the discriminative power of the revised B-NMDS were tested (2,3). This will result in a beta version of revised NMDS in December 2004. The fourth phase (January – December 2005) focus on information management. The beta version of the Revised B-NMDS will be piloted in a small number of hospitals for a wide range of departments to evaluate the external validity of the revised dataset. Adaptation in legislation, feedback and audit modules, ICT-support to allow this revised data-collection will be prepared. In January 2006, nation-wide implementation of the dataset is foreseen.

Study outcome

This process will result in a revised B-NMDS that is ready for nationwide implementation in 2005-2006.

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Development and use of mentor/student guiding instrument for the practical education on the PICU

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Background

In the Netherlands there are three different initial nursing training programs. Once the student becomes a Registered Nurse he/she can choose from eight post graduate governmental approved nursing specialties; Dialysis, Neonatal Intensive Care, Adult Intensive care, Paediatric Intensive Care, Oncology, Obstetrics and Gynaecology, Paediatrics and Emergency care. All Nursing programs consist of in-school and in-hospital practical training program. The National Regulation Post graduate Nursing Education (LRVV) only approves those post graduate educational programs that will meet

the end point criteria (in-school as well as in-hospital criteria). However in the Netherlands there was no adequate guiding system to track the in-hospital progress of the student during the training.

Methods

Reflection forms were created containing the LRVV in-hospital end point criteria.

- 1) Methodical Nursing practice
- 2) Prevention, health-informing and education
- 3) Coordination and organisation of care
- 4) Quality care and improvement of professionalism

The end point criteria were further itemized by partial qualifications. These qualifications must be scored at the end of the shift by the mentor. The mentor will rate the items as 1: very good to 4 as very poor insight of the student. The ratings were objectively described on the back of the form. The ratings are explained and discussed with the student and there is space for written advice as well. Each period of the training has got a different reflection form with a description of the mentors role and the in school training done by the student. Period 1 contains the care of the high care patient to period 3 containing the complex or instable patient. All the reflection forms in a certain period form the base of in-between or final appraisal of the student. The reflection form was also adjusted to other nursing specialisations and even the initial nursing program within the hospital. All the student nurses and mentors received training in the use of this reflection form. Publication is pending.

Conclusion

Because the LRVV approved end points are included in the reflection form, the progress of the clinical practise of a student can objectively be monitored. Therefore it will lead to a well balanced appraisal of the student. This will do justice to the learning curve of the student, the input of the mentor(s) and last but not least the quality of nursing care of the specific unit.

Nurse driven development approach to newly-hired critical care nurses

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Background

Most newly-hired nurses are encountering difficulties in "Acquiring theoretical evidence into practice", especially in critical care unit. Quality of care is dependent on effective training within the critical care team while the scope of practice of this qualified yet inappropriately trained nurse would encompass simple tasks to more complex tasks. This concern, germinated into the project of developing guidelines to facilitate early adaptation of new nurses.

Aim

To provide better outcome for critical care patient by improving services and quality care through implementation of a guided training of newly-hired nurses on the basis of progressive and individualize adaptation.

Methods

- The guided training foresees 3 months with a mentor/adviser.
- The definite integration of the nurse is done at the end

of the program and after a verbal evaluation.

- The guided training is accomplished at the patient's bedside in a critical care setting.

Results

This guided training project enables the nurse to take care of 1 to 2 patients within three months. However, considering all critical care nursing staff members as potential mentors, the newly-hired nurse principal adviser seems essential for obtaining better and favourable results on the application of such training.

Implications

This project which has been implemented from January to March 2005 gave a fruitful and significant result of endeavours for a newly-hired critical care nurse. It enables the acquisition of self-confidence and self-esteem facilitating early adaptation, thus improving patient outcome and quality of life. Finally, it ensures as well, a spirit of consistency and continuity of care by allowing them to acquire and recognise their own specific competence.

Accreditation and its positive impact in the critical care units of American hospital

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Background

The Vehbi Koc Foundation American Hospital in Istanbul Turkey, has, over the last decade worked towards and achieved JCI accreditation, as well as Standardisation certificates for ISO 9001 and 14001. These have had positive impacts and implications in the care of the patient in terms of quality and safety. The focus of the implemented processes can be highlighted under the components: patient, environment, and the employee. The American Hospital, a 180 bed general not for profit acute care facility, has within its scope of services, four separate intensive care units. These include: Coronary Care Unit, Cardiovascular Intensive Care Unit, the Neonatal Intensive Care unit and the General Intensive Care unit and make up 49 of the total 180 beds.

Aim

The descriptions that will be addressed within these areas of care relate those identified improvement opportunities, risk factors faced, and revised standards of care dealing with samples of care standards, utilisation criteria, employee satisfaction, patient satisfaction.

Results

The projects undertaken produced increased staff awareness for patient safety and expectations, elevated levels of team work, an increase in the continuous improvement culture, greater participation in policy and management issues, and greater accountability, and an understanding of the need for measurement, and objective data.

Implications

Nursing and other health care staff members learned how both human and system factors can be adjusted to or corrected to decrease patient risks and improve patient outcomes. An increased use and understanding of measurement tools, assessment skills, monitoring activities can contribute to safer systems and a safer environment

for both patient and employee.

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SESSION: CRITICAL CARE OUTREACH

Developing a multi disciplinary critical care outreach service within a single specialist NHS hospital

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Background

Critical care outreach (CCO) was implemented at the Royal Orthopaedic Hospital (ROH) NHS Trust, Birmingham as advocated by the Department of Health (2000). Initially the service was nurse lead with support from the Director of Anaesthesia. During the past four years the CCO team has continuously evolved and expanded in order to provide an appropriate service based upon recognised needs of patients, staff and organisation. ROH provides a regional, national and international service for patients who require spinal, orthopaedic or bone tumour surgery. CCO maintain a comprehensive database of all their patients and out of hospital transfers. Data trends illustrate that a number of patients develop medical problems and require transfer out to a General Hospital. Cardiac disorders are a primary reason for out of hospital transfers.

Developing practice

The Critical Care Outreach team devised a plan to improve the care of sick and 'at risk' patients within the hospital. This ultimately resulted in expansion of the CCO team and an adoption of a multi disciplinary approach to the service. Collaborative working is a mechanism to minimise risk and monitor quality throughout an organisation (McSherry & Pearce, 2002).

The following strategies were been implemented by CCO:

- Physician 3 sessions per week
- Utilisation of the critical care network
- Joint transfer audit with neighbouring Trust
- Direct referral to CCO team for patients who are transferred to neighbouring Trust
- Fostered links with specialist staff at neighbouring Trusts for advice on patient management at ROH
- Pharmacist 1 session per week
- Link with pre operative assessment to identify 'at risk' patients
- Adaptation of MEWS for ROH patients

Outcomes

CCO acknowledge that three physician sessions per week has limitations, however, urgent referrals of patients requiring medical intervention are made to CCO nurses who assess the patient, and if necessary, contact the physician out of hours for advice and a plan

of care. According to the Department of Health (2001) "Nurses are often in the front line of assessing patients and alerting other members of the health care team with regards to the severity of illness".

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Implementing a 24/7-MET (Medical Emergency Team) at the Karolinska University Hospital, Solna, Sweden

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Background

Since several years we have been planning the implementation of a MET serving the Karolinska University Hospital. Congress visits, a national conference (Halmstad, 2003) and a lecture in 2002 by Gillian Bishop, Liverpool Hospital, Sydney, Australia was instrumental in deciding how we wanted the MET to work. Several studies have shown that the presence of a MET system have a positive effect on reduction in the incidence of unexpected cardiac arrests (1) and reduced emergency intensive care unit admissions, a decrease in hospital death and decrease in duration of hospital stay (2,3). Before introducing MET at Karolinska we sought to test the criteria for MET-calls by recording prevalent physiological data on all adult patients treated in the hospital. We used the help of 50 nursing students from the Red Cross Nursing School in Stockholm. The study took place at two separate occasions and included 1097 patients. Data from the investigation is being processed but preliminary result show that 3,65 % (2,6-4,9) fulfilled the study criteria. Out of the patients fulfilling the criteria the 30 day mortality was 25% (12,7-41,2) as compared to 3,5% (2,4-5) in the group of patients not fulfilling the criteria.

Aim

In January 2005 we started our MET information process. Our goal was to inform every single nurse and doctor working at the general wards of the hospital. The core team from the ICU consisted of three nurses and three ICU doctors. We used lectures and the hospital intranet for the information.

Result

The MET function started as planned on the 7 th March 2005 and we managed to reach most of the wards with the information. The work of implementing continues.

Implications

Clinical data from the first six months will be presented at the congress.

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When should we stop monitoring our critically ill patients?

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Background

As critical care nurses we are regularly taught the "how, why, what, where and when" of monitoring our critically ill patients. But are we taught when to stop the monitoring? If we are to deliver individualised, high quality nursing care then this must be considered.

Aim of the paper

The aim of this paper is to make us think about the monitoring which we undertake as critical care nurses and to explore the times when monitoring should be stopped. What monitoring is and is not will be explored. We will also consider reasons why it is not stopped and have a general discussion regarding our everyday practice. Participation by delegates will be encouraged.

Implications

The effects of our practice will be explored and the impacts that it can have on health care professionals, patients and their families.

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SESSION: EVIDENCE BASED PRACTICE AND RESEARCH

Respiratory waveforms in patients with obstructive pulmonary disease

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Background

Patients with chronic obstructive pulmonary disease, (COPD), constitute 12% of patients receiving mechanical ventilation in an

international survey of mechanical ventilation. Moreover, the presence of COPD may undermine the outcome of many patients who receive mechanical ventilation for other disorders. Most of current ventilators provide respiratory waveform graphics packages. Ventilator waveforms display respiratory status and contribute to optimal assessment of mechanically ventilated patients with COPD. Still, the interpretation of the waveforms is not applicable to the clinical decision making because of lack of practice.

Aim

The aim of this paper is to describe the essential information obtained by the respiratory waveforms in mechanically ventilated patients with COPD, before clinical signs become overt.

Results

Several ventilatory displays were identified to provide accurate information.

Particularly, in patients with COPD, pressure, flow and volume waveforms are employed to estimate the presence of dynamic hyperinflation and to measure pulmonary mechanics. Moreover, a recording of flow and airway pressure over time enables the clinician to measure respiratory system resistance and compliance as well as PEEP-i. Auto triggering and patient-ventilator asynchrony can be detected by pressure and flow waveforms as well as pressure-volume loops. Flow-volume loops can indicate the presence of reduced expiratory flow and the presence of excessive secretions.

Implications

Respiratory waveforms are routinely available at the bedside. An understanding of the essential information they provide, would assist in recognizing various forms of patient discomfort and enable us to provide early intervention and appropriate adjustments in the mode and the settings of the ventilator. Respiratory monitoring is another challenge for critical care nurses in order to assure the better management of mechanically ventilated patients.

Evidence-based practice among Danish critical care nurses

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Aim

The aim of the study was to describe the extent of evidence-based practice in critical care nursing at Danish intensive care units in 2004, and also to explore nurses' self-reported attitudes and knowledge of evidence-based practice.

Methods

The study was conducted as an e-mail survey of critical care nurses. A network of experienced critical care nurses from most intensive care units in Denmark was formed in 2003 with the purpose of information sharing and stimulation of research. Each member of the network (n=47) received a questionnaire as did one nurse at each non-participating intensive care unit (n=11). The response rate for nurses in the network was 87%, and 46% for nurses at non-participating intensive care units, yielding a final response rate of 79% after two reminders.

Results

The respondents have an overall positive view of evidence-based practice although most nurses rarely read scientific journals. Some units use guidelines for practice, but these are not evidence-based. Barriers towards implementation of evidence-based practice include financial restraints, a focus on quality improvement, a lack of consensus regarding the definition of evidence-based practice, paucity of nursing evidence, and lack of nursing research. The responsibility for evidence-based practice lies with management, not at the level of the individual nurse.

Conclusion

Evidence-based practice is not feasible in all areas of nursing, which discourages nurses from focusing on the areas where evidence does exist. Evidence-based guidelines and specially designated nurses such as clinical specialists are the most commonly used vehicles for promoting evidence-based practice in Danish intensive care units.

The complexity of evaluating nurse-directed weaning

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Background

The implementation of critical care interventions aimed at producing change require rigorous evaluation to demonstrate effectiveness. Evaluation poses difficulties, however, because these interventions are usually complex. Nurse-directed protocolised-weaning is a complex intervention because it comprises a number of components which act inter-dependently. For example, the content component (the guidelines and protocols used); the practical component (nursing behaviours such as skills in conducting respiratory assessment, patient monitoring and decision making); and the organisational component (preparation and delivery of nurse-directed weaning). Randomised controlled trials generally provide strong evidence for the validity of interventions. However, they evaluate the total intervention, but in the case of complex interventions it is difficult to determine the contribution of individual components to the outcome.

Aim

Across Europe a number of models have been proposed to assist the development and testing of complex interventions (Bradley et al. 1999, MRC 2000, van Meijel et al. 2004). This paper describes the framework proposed by the Medical Research Council (MRC) and outlines how it was used to design an exploratory trial to evaluate nurse-directed protocolised-weaning.

Methods

Procedures and research methods that were used in the study are outlined; they involved semi-structured interviews, a questionnaire survey and observational work to define the components of nurse-directed weaning. The intervention was subsequently evaluated in an exploratory trial using a quasi-experimental design.

Conclusions

The MRC framework as an approach to developing and evaluating complex interventions in health care is rational and widely applicable. Used to assist the design of an exploratory trial, it enabled identification of constant and variable components involved in nurse-directed weaning. These components are important to define and measure when determining the overall effectiveness of an in-

tervention. Nurses involved in developing and evaluating complex critical care interventions should pay particular consideration to using this framework, or similar models, to guide their research.

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SESSION: HOW TO IMPROVE NUTRITIONAL PRACTICES IN THE ICU? FROM A NURSE, NUTRITIONIST AND INTENSIVIST PERSPECTIVE.

A European survey of intensive care nurses' nutritional assessment practice

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Introduction

Effective nutritional support is dependent on a number of factors, including the application of standard techniques, the use of protocols and the contribution of nutritional support teams. In this respect, the level of consistency of nursing practices in European intensive care units (ICUs) was previously unknown.

Objectives

The aim of this survey was to gather an overview about specific nutritional practices and procedures in European adult ICUs.

Methods

A 51-item self-administered questionnaire covering the demographic characteristics of intensive care units, the nature of nutritional assessments and enteral feeding practices was distributed to 383 ICUs in 20 European countries.

Results

380 (99.2%) questionnaires were returned. Most units (76.7%) had an enteral nutrition policy but the majority did not use a nutritional risk score to assess their patients and only 35.8% assessed nutritional status on a daily basis. A large minority of ICUs were supported by a nutritional support team (NST) (36.1%) although significantly more university teaching hospitals than non-university teaching hospitals provided this service. Few ICUs (n = 21) undertook nutritional assessments of patients although the majority of units (60.4%) assessed nutritional requirements of patients on a daily basis. The most common route of feeding was via a nasogastric tube, and a variety of methods was used to check its position. The most common methods were auscultation of injected air (72.6%) and abdominal radiograph (34.9%). Evidence of bile in

the aspirate and pH measurements were used infrequently. 'Standard' feed (full strength) was used most commonly, and feeding commenced within 24 hours. Feeding was mostly continuous, although there was a variety of a practice. Most ICUs used drugs to improve gastric motility (61.0%), the most common of which was metoclopramide.

Conclusions

Many aspects of European intensive care enteral nutrition practice reflect current guidelines. The results also demonstrate that compared to previous research there is an increase in the use of clinical protocols and nutritional support teams within European ICUs. Involvement of intensive care unit nurses in reviewing patients' nutritional assessments was minimal as was their application of evidence for checking feeding tube placement. There is much scope for developing nursing practice in enteral nutrition management.

SESSION: INFECTION PREVENTION AND NIDCAP

Nosocomial infections in the Neonatal Intensive Care Unit

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Introduction:

Nosocomial infections are a major cause of morbidity and mortality in Neonatal Intensive Care Units (NICUs). Survival and prolonged hospitalisation of premature, immunocompromised infants render them vulnerable to nosocomial infections. Hand washing is promoted as the single most effective means of preventing these infections. Compliance with hand washing regimens is problematic. The Centers for Disease Control (CDC) recommended hand rubbing with "waterless" alcohol-based solution or hand washing with antiseptic soap. We studied the compliance of "waterless" hand rubbing among health care workers in the NICU of the Sophia Children's Hospital.

Methods:

Health care workers (nurses, residents/ nurse practitioners, neonatologists, laboratory personnel and others) were observed by two medical students during daytime and in the evening for a period of two weeks in February 2005. The compliance with hand hygiene according to guidelines were systematically observed. The hidden observation took place in a 24 bed level 4 NICU. The observations were focused on three items: (1) the frequency of hand disinfections prior/ after contact with patients (2) the time used for hand rubbing (3) the quality of the hand rubbing technique.

Results:

Three hundred seventy-eight interventions were systematically observed during 110 hours. The distribution of the observed health care workers was: nurses (71%), residents/ nurse practitioners (7%), neonatologists (11%), laboratory personnel and others (13%). Seventy percent of the health care workers disinfect their hands before patient contact and 67% disinfect after patient contact. The median hand rubbing time (range [p25-75]) was 7 seconds (range 4-12). The disinfection rate of the hand palm, -back, between the fingers and the finger tops was respectively: 70, 66, 34 and 6%.

Conclusion:

The compliance of hand hygiene needs to be improved.

Safety of kangaroo-care in preterm ventilated infants

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Due to pharmacological and technical advances in neonatology we are nowadays able to support preterm newborns with a gestational age of approximately 25 weeks. However, these infants will have to face the negative effects of prolonged intensive treatment and stress through exposure to light, sound and pain, which all can lead to an abnormal development and problematic bonding with their parents. Various studies have shown that 45% of these very preterm infants develop a handicap, 51% show developmental problems, such as learning disorders, and 23% have behavioural problems or lack of concentration. Preterm infants differ in many ways from full-term newborns; when exposed to extra-uterine life, preterm newborns are challenged to adapt despite underdeveloped respiratory and nervous systems. The environment for the preterm newborn, the neonatal intensive care unit, is absolute inadequate when compared with the intra-uterine environment. Although mortality has declined in this group in the last 20 years, the percentage of children with serious disorders remains more or less the same. Therefore, premature children need extra guidance, care and social interaction with their parents.

Because the NICU-environment can hinder and have a negative effect on the social interaction between child and parents, interaction needs to be facilitated from birth onwards. Kangaroo-care may be used as an intervention to enhance the psychosocial well-being of the newborn and his or her parents in the NICU. Kangaroo-care is a way in which bonding between parents and children is promoted through skin-to-skin contact. During kangaroo-care the newborn wears a diaper and is placed in an upright position on the chest of one of the parents. The parent supports the child on the chest, which enhances the feeling of self-confidence for the parent. The Kangaroo-method was first used by Martinez and Rey in 1978 in Bogota, Colombia. A shortage of incubators and an increase in infections made them explore kangaroo-care. The survival chances increased enormously with kangaroo-care. Survival in infants below 1500 grams increased from 10 to 50% and in infants between 1500-2000 gram from 70 to 90%. Duration of admission to the NICU also decreased significantly.

From 1985 onwards, kangaroo-care has been used in Western countries with the intention to improve bonding between parents and newborn infant. An article reviewing several important studies concluded that kangaroo-care can lead to less crying and better growth at the age of six months and that these children sleep for longer periods and much deeper compared to those who did not receive kangaroo-care. Mother's self-confidence improved, but kangaroo-care also increased self-esteem, maternal feelings, and the feeling of being in control, and reduced stress levels in the parents. Parents of preterm newborns are often not as well prepared as parents of full-term newborns. They experience stress and insecurity about the duration of the admission and future prospects and at the same time have to adjust to a medical and highly technical environment where is never calm and which does not provide a daily rhythm or privacy. These kinds of conditions increase the chance that parents will have problems in the relationship with their premature infant. The barrier caused by the NICU, as well as the parental concerns about their child's condition, increases the

chance of developing bonding problems. Therefore, parents need to be encouraged and supported to gain self-confidence and build a good relationship with their child.

Bonding between mother and child has psychological and biological aspects in maternal behaviour. This is based on two important phases. The first is a hormonal one, which begins during pregnancy with a prolonged hormonal phase (estrogen, progesterone and prolactin). At the end of pregnancy a so called 'trigger phase' starts with a strong decline in progesterone and an increase in estrogen, prolactin and oxytocin levels. After giving birth there are a few days of residual effects of these hormones. The transition to the second pillar starts once the child stimulates the mother through smell, sound, behaviour, appearance and physical interaction. This is a period when hormonal and psychological factors join together. When mothers are unable to form a good bond with their child during this period, feelings of depression, disappointment and anger can develop.

The consequences of a separation between mother and child are: changes in sleeping patterns, increase in oral activities and (in the long term) growth deficiency because of low hormone levels in comparison to infants who were not separated from their mother at birth. Various studies in mammals show comparable reactions, but also different reactions like: anger, increased motor activity and, in a next stage, apathy, hormonal imbalances, increased heartbeat and more oral activity.

Psychological explanations focus on connections in behaviour between the young and their mother. A complex web of reactions in different systems is triggered in the young due to the absence of the mother. Studies with rats have confirmed that these reactions are being influenced by three kinds of stimulants: tactile stimulants, warmth and smells. These stimulants are also present in human newborns.

Until now limited research has been done on the safety of kangaroo-care in premature infants who are supported on ventilators. As the advantages of kangaroo-care for infant and parents have been clearly proven, we did not want to limit application of this type of care to infants who have been weaned off the ventilator. We initiated a study on the use of kangaroo-care in preterm infants under 30 weeks of gestation who are still dependent on mechanical ventilation. A major aim of this study is to establish whether Kangaroo-care is a safe intervention for this group of infants. We tested safety by recording heart rate, oxygen saturation, blood pressure, temperature and respiratory conditions before, during, and after Kangaroo-care in a group of very premature infants.

SESSION: VENTILATION STRATEGIES

Developing a research based plan of care for patients who undergo prolonged ventilation post cardiac surgery

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Background

Studies have shown that the key to successful weaning from prolonged ventilation lies with the use of a co-ordinated plan defined by a skilled multidisciplinary team.

This paper explores the process of developing a multi disciplinary

approach to caring for patients weaning from ventilatory support following cardiac surgery in a 12 bedded regional cardiac unit. Audit revealed that patients who underwent a protracted weaning period constituted 1% of our operative population. This 1% required 23% of CICU ventilated hours, which has major ramifications for resources. Most importantly however is the experience of prolonged ventilation for the patient.

Aims

- A multi disciplinary team approach was adopted to clarify the needs of the individual patient and create a defined and negotiated plan of weaning.
- From a process of defining the weaning population we developed interactions at various time points with the aim of limiting the duration of ventilation. This included the pre operative phase where a tool was created to predict potential weaning candidates in order to optimise specific care from the peri operative period on wards.
- The focus was concentrated on the individual patient through a process of negotiated goals, advanced methods of communication, establishing daily routines as close to their home life as possible and involving family and friends. Patients are followed up post discharge. This provides continued support for them and their families and has provided us with useful information to inform our practice.
- The CICU environment has been ameliorated with research based art works and ambient music to reduce the patient's level of stress.
- An educational programme was developed to increase knowledge and awareness of the complexity of weaning from long-term ventilation.

Results and Implications

A database was created to monitor the weaning process and the patient's response. Early results have indicated that ventilation times have been reduced since the introduction of the new approach. By analysis of further data and through follow up interviews we hope to refine the process in a positive way for both the patient's experience and the duration of weaning.

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The impact of nurse-directed protocolised-weaning on nursing practice in the UK.

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Background

Over the past decade, nurse-directed protocolised-weaning has been evaluated by measuring its impact on patient outcomes (Kollef et al. 1997, Marelich et al. 2000). However the impact on nursing practice has been largely ignored.

Aim

To determine the change in ICU nurses' perceptions, satisfaction, knowledge and attitudes following the introduction of nurse-directed weaning. Additionally, views were obtained on how useful protocolised-weaning was to their practice.

Methods

The sample comprised nurses working in general ICUs in 3 university-affiliated hospitals. Nurse-directed protocolised-weaning was implemented in 1 ICU, while 2 ICUs continued with usual doctor-led practice. Nurses' perceptions, satisfaction, knowledge and attitudes were measured at baseline (phase 1, March 2002) and after the implementation of nurse-directed weaning (phase 2, November 2003).

Results

Response rates were 79% (n=140) for phase 1 and 62% (n=132) for phase 2. Using regression-based analyses, changes from baseline were not significantly different between the 2 groups. During the study period, 69 nurses responded to phase 1 and 2 questionnaires. In the intervention group, these nurses scored their mean perceived level of knowledge higher in phase 2 (6.39 v 7.17, p=0.01); other changes were not significant. In the control group there were significant changes for these nurses in role perception (4.41 v 4.22, p=0.01), perceived knowledge (6.03 v 6.63, p=0.04), awareness of weaning plans (6.09 v 7.06, p=0.01) and satisfaction with communication (5.28 v 6.19, p=0.01). The intervention group found protocolised weaning useful in their practice (75%): this was scored significantly higher by junior and senior nurses than middle grade nurses (p=0.02).

Conclusion

We conclude that implementing nurse-directed protocolised-weaning had no effect on nursing practice. A likely reason was the high level of satisfaction which encouraged nurses' participation in weaning throughout. Control group changes are attributed to a 'reactive effect' from being study participants. Weaning protocols provide a uniform method of weaning practice and are particularly beneficial in providing safe guidance for junior staff.

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The development of guidelines for nursing patients in a prone position in an Australian intensive care unit.

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Background

Annually in Australia Adult Respiratory Distress Syndrome (ARDS) develops in approximately 8 cases per 100,000 people (Breiburg et al, 2000). Prone positioning is a technique that has been used to improve respiratory function in the management of patients with ARDS. Despite the benefits, potential complications such as peripheral nerve injury, decubitus ulcers and orbital compression may occur (Harcombe, 2004). Critical care nurses have demonstrated reluctance to position patients prone due to the potential risks and issues of increased workload (Leonet et al, 2002). Prone positioning is used for a small number of patients at the Canberra Hospital although no guidelines for this practice had previously been developed.

Aim

The aim of this project is to develop and implement comprehensive clinical nursing guidelines for the prone positioning of patients in the Canberra Hospital Intensive Care Unit that are underpinned by current research.

Results

The guidelines have been developed after an extensive literature review and telephone survey of existing guidelines utilised in eight major metropolitan hospitals. Only two hospitals in that group were currently using guidelines. An important component to the development of clinical guidelines is a thorough education process including evaluation to ensure adoption of the guidelines by clinicians (Ball et al, 2001). Education sessions for clinicians working in ICU have been implemented and evaluated using pre and post session surveys.

Implications:

Patients nursed in the prone position may be at risk of complications. Nursing research has highlighted the need for guidelines to assist critical care nurses in managing patients undergoing this procedure (Ball, 2001; Harcombe, 2004). The development and implementation of nursing guidelines has helped to standardise and enhance the provision of care for the prone patient in the Canberra ICU. In addition, the guidelines are being utilised in postgraduate and staff development critical care education.

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SESSION: FAMILY CENTRED AND HOLISTIC CARE

To what extent are holistic indices realised in intensive care units?

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Introduction

In holistic understanding, the patient is a bio-psychosocial entity. The assumptions of holistic nursing care may be particularly difficult for realisation in the intensive therapy unit because of the severe condition of patients and the high advancement of diagnostic and therapeutic procedures.

Objective

The objective of the work was to evaluate in the what degree are holistic nursing care indices realised in intensive therapy unit.

Materials and methods

The studied group included patients from three clinical ITUs. A questionnaire was elaborated by the authors and it was addressed to the patients. The indices were determined on the basis of available literature and the instrument was developed on the pattern of the instrument of nursing care evaluation BOHIPSZO H. Lenartowicz and QA Margo A. Halm Scale. The questionnaire of holistic care consisted of 11 indices: recognition of bio-psychosocial needs of patients, feeling of safety and comfort, communication ability, autonomy and respect for patient's dignity, empathy, support, self-care, education and counselling, contact with family, dignified dying, therapy by environment. The determined indices have been selected in such a way that in order to be able to say that the nursing care was a holistic one, all indices have to be met in the highest degree (100%).

Results

The studied group included 45 patients. Indices which were met in the highest degree included education and counselling – 100%, then followed autonomy, respect for patient's dignity – 99.5%, support – 87.7% and contact with family – 81%. Empathy index showed the lowest percentage – 57.9%. Insufficient was the conscious involvement in the world of the patient's experiences, the effort to imagine oneself in the patient's situations, the proper interpretation of the patient's situation and practical implementation of that knowledge, the recognition of the bio-psychosocial needs of the patients – 67.3%. Insufficient was also the keeping records of nursing documentation or its availability, as well as the recognition of the patient's needs to communicate - 74.8%. There were an unsatisfactory use of the consoling and protective hand touch as an extra verbal form of communication, neglect of self-care – 77.2%. There was an insufficient effort to try to find together with the patient what he/she misses in the nursing care, or attempts were neglected to involve the patient in his/her self-care. Not satisfactory was the feeling of safety and comfort – 78.4%. Absence of

identification tags, noise and burdensome illumination in the sick room were negatively estimated.

Conclusions

- The assumed indices of holistic care were not fulfilled in the highest degree in any of studied unit.
- The developed research instrument requires a validation process.

The anxiety level of the patients' family having medical treatment and mechanical ventilation support by the intensive care unit

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Aim

Mechanical ventilation means to maintain adequate respiratory support by the help of machines called ventilators. Patients who will take mechanical ventilation support are oro-tracheally, naso-tracheally intubated or having tracheotomy canules. This situation is sensed as a disaster not only by the patient but also by their families. The psychological trauma risk of the patient and the family increases because of the patients being sedatized, unconscious and the other negative effects of intensive care unit.

Materials and Methods

This study is planned as descriptive and analytic to find the anxiety level of the families whose patients are having mechanical ventilation support in the intensive care unit. We studied the families of 300 patients having mechanical ventilation support in Istanbul University Medical Faculty Hospital, Istanbul University Cerrahpaşa Medical Faculty Hospital and Marmara University Hospital intensive care units between the years of 2001 to 2003.

While collecting the data; 51 questions were planned by the researcher according to the literature, Spielberg's State and Trait Anxiety Inventory which is proved valid and reliable by Oner and was analysed by using standard deviation test, mean, t-test, univariate analysis and internal consistency coefficient.

Results

At the end of our study, we concluded that patient families' anxiety states are moderate, mechanical ventilation treatment doesn't create a difference over the anxiety state, intensive care unit stress factors and family needs create a significant difference over the anxiety states.

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Communication experiences with intubated patients in ICU

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The objective of Cardiac surgery is to increase lifetime as well as to improve quality of life. Reaching this goal is only possible by enabling a good communication between the nurse, patients and families. Those patients who seem not to react are disposed to stresses originating from the surgery and intensive care unit in real. Patients who are implemented mechanical ventilation lose their communicational skills besides motion and privacy. We use communication cards and body signs besides touching techniques, inform patient and families. Ours purpose is to share communicational experiences by giving various examples of our own.

WORKSHOP: EVIDENCE-BASED NURSING

Evidence-Based Nursing in critical care settings

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In spite of the fact that most professional nurses believe that evidence based nursing results in better quality of care, there is still a gap between the results of research in the literature and the use of these results in daily practice. This discrepancy can be solved by using a systematic research utilization process. Research utilization is transferring research findings to nursing practice. The process can be carried out by individual nurses, groups of nurses working together to solve problems, by interdisciplinary teams, and by institutions and organizations seeking to make system-wide improvements in care outcomes.

After this interactive session participants will be acquainted with

- identifying a practice problem that needs solving and assessment of research base
- formulating a research question to search electronic literature databases
- using electronic literature databases (Pubmed / Medline / CINAHL)
- assessing an article on its scientific merits
- utilizing results of research in practice

SESSION: SEPSIS IN CRITICAL CARE

Managing severe sepsis across the life continuum

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Although aged patients are less likely to develop fever and Leucocytosis, older septic patients have a higher mortality compared to younger patients. Apart from lifestyle factors and co-morbidities, ageing is associated with decreased resistance to bacterial infections and concomitant increased circulating levels of inflammatory cytokines. The mechanism and clinical consequences of age-de-

pendent changes in immunity will be presented.

SESSION: TRAUMATOLOGY

Surviving the intensive care department after a trauma: A survey of the perception of trauma patients during the intensive care period

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Introduction

Nursing care to trauma patients on an intensive care department is usually given based on intuition, on regular basis, and from the perspective of the health care professional. Little knowledge is based on research. A literature study showed that little exploration on this subject is done.

Purpose

The purpose of this study was to describe the perception of trauma patients during their stay on the intensive care, to generate knowledge about the reality perceived by the trauma patients. Knowledge about this perception gives the opportunity to nurses to support the patient with his problems, to stimulate his strength, and offer solutions which proved their efficacy to other patients. The central question was. What experiences a trauma patient during his stay on the intensive care

Method

Thirteen men and five women who required intensive nursing care after serious injury have been interviewed during or very shortly after their stay on the intensive care. Semi structured interviews and observations are used as a method to gain data for this qualitative study.

Data-analysis

The interviews are recorded on tape and transcribed literal. The interviews are read and coded. Detailed coding is done with Winmax. After five ten and fifteen interviews the structure is remodelled. Again the interviews are reviewed with the new structure. Peer debriefing, method triangulation, keeping up with a journal, is used as a validation and reliability method. At last the reliability of the interpretation is reviewed by another researcher.

Results

The perception of a trauma patient on the intensive care is described. It shows us, awakening, the meaning of the trauma, the perceived problems, coping strategies, and feelings and emotions of trauma patients, function of family, and the perception of the nursing care.

Conclusions

- The trauma has a huge impact on body and psyche of the trauma patient.
- Attention of the HCP's is especially focused on physical surviving. Patients experience a lack of attention for the psychological impact
- The trauma patient needs emotional support and rest. The intensive care environment doesn't offer this to trauma patients.
- Nursing care interventions within the problem areas of pain, sleep, loss of memory, respiratory treatment

and communication have little or no effect and/ or are not well effectuated.

- These interventions should be evaluated again and new ones must be designed.
- Family and friends can offer emotional support to trauma patients. Nurses cannot, because they do threatening interventions to patients.

Nursing care for patients with multiple trauma

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Aim

The central role of the emergency nurse in managing poly-traumatised patients from admission to the ward or operating room discussed, by evaluating statistical data on hospital admissions.

Method

The study was carried out on 105 patients admitted to the Emergency of Hospital "Umberto I" in Nocera Inferiore (SA) with serious trauma, red code, from January to December 2004. The type and duration of diagnostics per patient, and the total permanence in the Emergency room have been considered. The Injury Severity Score (ISS) correlation with mortality of patients was evaluated by means of the ROC curve analysis. Statistics were evaluated by the T-student test, and survival curve by the Kaplan-Meier method. Values with $p < 0.05$ were only considered.

Results

Age: 43.1 ± 20.7 years. Basic diagnostics per patient: abdomen ecography, thorax and pelvis radiograph, cranium-thorax-abdomen CAT, with rachis global evaluation. Traumas categories were found to be: 39% multiple-traumas with cranium trauma, 25% cranium trauma only, 23% multiple-traumas without cranium or thorax trauma, 8% simple traumas affecting one body section, 6% thorax traumas only. Thorax drainage was applied in 6% events. Duration of permanence in Emergency: 133.78 ± 85.30 min. Time elapsed from admission to: abdomen ecography, 9.98 ± 10.09 min; thorax and pelvis radiograph, 17.59 ± 12.16 min. CAT duration 39.61 min. ISS 30.64 ± 13.01 . Mortality after 28 days: 19% (most within first 10 days). ROC analysis proved an elevated correlation between ISS and mortality.

Conclusions

Those presenting with multiple trauma to the Emergency must be supported in their most critical stage. The ISS far greater than 15 indicates the severity of traumas, hence the Emergency Nurse is called to the maximum knowledge and skill for the accurate application of operating procedures and protocols. 10% of patients deceased within 24 h from the trauma, to confirm how critical diagnosis and therapies provided in the first hours are.

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Centralization criteria for major trauma: validity in the attribution of the triage code and for the activation of the trauma team in an urban II Level Emergency Department

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Aim

The American College of Surgeons recommend centralization of trauma patients on the basis of clinical criteria (CC) and of mechanism of injury (MI). It's been hypothesized that the trauma patients centralized because of MI have a poor correlation with the presence of serious lesions and therefore that the activation of the trauma team is not always necessary as well as the attribution of the highest level of access priority.

Methods

Centralization criteria has been compared in a retrospective observational research using the data drawn by medical and nursing case history of trauma patients admitted to the II level ED of Careggi Hospital (Florence – Italy) in 2004. The outcomes have been classified as major (admission to ICU, operating room or death) and as minor (admission to medical or surgical ward, transfer to the orthopedic first aid unit, discharge, admission refusal)

Results

The data from 505 trauma patients treated in the emergency room has been analyzed; 31 have been discarded for lack of data. Of 474 cases, 265 (56%) have been centralized on the basis of the MI, 205 (43%) because CC. In the group of the MI 53 cases did not report the mechanism description. 156 (76%) of the cases centralized for CC had major outcome against only 22 (8%) of the cases centralized for MI (Odds Ratio 35,2; 95%CI 20,4 - 60,4; $p < 0,001$). The patients' odds centralized for CC and of MI relatively to the major outcome are respectively 3,1837 (95%CI 2,3127– 4,3826) and 0,0995 (95%CI 0,0645– 0,1538)

Conclusions

Further studies are necessary to demonstrate the actual validity of the MI criteria for the centralization of trauma patients yet on the basis of the research findings it can be assumed that the majority of these patients don't need intensive and immediate care and a secondary triage can be useful for the patients centralized for MI in order to avoid inappropriate activations of the trauma team.

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SESSION: FAMILY WITNESSED RESUSCITATION

A European survey of critical care nurses attitudes and experiences of having family members present during cardiopulmonary resuscitation

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Introduction

The issue of whether or not family members should be present during cardiopulmonary resuscitation (CPR) of a relative is a topic that is highly controversial. Proponents argue that distressed family members should not be denied the opportunity to be with their loved ones during their last moments; being present provides emotional comfort and bonding, helps to reduce the period of grieving and provides closure to a life of shared experiences, and research evidence indicates that family members suffer no adverse psychological effects from being present during CPR. The contrary view centres upon the possible traumatic, distressing and haunting consequences that might occur for those who are present during CPR, and the effect that the presence of relatives might have on professional conduct.

Objectives

The purpose of this study was to survey the experiences and attitudes of European critical care nurses to the presence of family members during (CPR).

Methods

A convenience sample of critical care nurses who attended the first conference of the European federation of Critical Care Nursing associations, held in Paris, France in May 2002 were invited to participate in this study. A survey questionnaire, developed from the literature, was distributed to all delegates attending the conference. It contained three sections: biographical information; questions concerning nurses' actual experiences of family presence; and thirty questions (sub-divided into three parts: i) decision-making, ii) process, and iii) outcomes of CPR) concerning nurses' attitudes to family presence during resuscitation.

Results

124 questionnaires were entered into the analysis. Generally, nurses from mainland Europe had less experience and were more unsure about the consequences of relatives witnessing resuscitation than UK nurses. Most nurses supported the presence of family members, although UK nurses held significantly more positive attitudes than their non-UK counterparts in the areas of decision-making, processes and outcomes of resuscitation.

Conclusions

Experience and attitudes of critical care nurses vary from country to country and, on the basis of results from this study, it is recommended that further European policy guidance is required.

Family presence during CPR: A study of the experiences and opinions of Turkish critical care nurses

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Aim

The concern over family-witnessed resuscitation, which is a frequent topic of debate in other countries, there is no report or published study regarding family member presence during CPR in Turkey. The aim of this descriptive study is determine the experiences and opinions of Turkish critical care nurses about family presence

during resuscitation and is to bring this topic into the critical care in Turkey.

Methods

Study population consisted of critical care nursing staff at four hospitals affiliated with the Ministry of Health, three hospitals affiliated with universities and three hospitals affiliated with Social Security Agency. A total of 409 eligible critical care nurses were surveyed. Forty-nine refused to participate, 55 were on leave, and 27 failed to complete the questionnaires correctly. Overall, the response rate was 68 % of the targeted sample (N=278). Data were gathered using a questionnaire that consisted of 43 items.

Results

None of the hospitals that participated in this study had a protocol or policy regarding the family witnessed resuscitation. More than half of the sample population had no experienced of family presence during CPR. None of the respondents had ever invited family members to the resuscitation room. A majority of the nurses did not agree that it was necessary for family members to be with their patient and did not want family members in resuscitation room. In addition, most of the nurses were concerned about the violation of patient confidentiality, had concerns that untrained family members would not understand CPR treatments, would consider them offensive and thereby argue with the resuscitation team. The nurses expressed their concern that witnessing resuscitation would cause long lasting adverse emotional effects on the family members.

Conclusion

On the basis of results from this study, critical care nurses in Turkey are not familiar with the concept of the presence of family member during CPR. In view of increasing evidence from international studies about the value of family presence during CPR we recommend educational program about this issue and policy changes are required within the hospitals to enhance critical care in Turkey.

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The Family Presence at resuscitation: ReAD CaRe Survey-An Italian perspective

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Aim

There is abundant literature on the positive effects on relatives of witnessing the attempted resuscitation of a loved-one. However witnessed resuscitation is still not always applied in practise and there are no Italian studies on this area of practice. The purpose of our study was to examine relatives and healthcare staff opinion

about this practice.

Methods

We conducted a descriptive qualitative study (Relatives Admission During Cardiopulmonary Resuscitation). A questionnaire was given to relatives of all patients admitted between June 2002 to July 2002 to our Emergency and Intensive Care Departments. Another questionnaire was given to all medical and nursing staff of the same departments.

Results

360 questionnaires have been examined (230 from relatives and 145 from healthcare professionals). The majority of healthcare staff, were not in favour of witnessed resuscitation (80.7%, $p < 0.05$) because they believed relatives would have a negative influence on patient management. In contrast the majority of relatives (70.2%, $p < 0.05$) stated that they would like to be present during resuscitation procedures and they perceive this option as their right.

Conclusions

From this study, despite his limitations three topics emerge: Italian health care staff and relatives feeling don't agree on witnessed resuscitation; Italian health care staff probably need to modify their attitude toward this topic. Further national and international studies are necessary; we propose a European study which could be coordinated by EFCCNA, to provide some insight on different approach about relatives presence during resuscitation in the European countries and can develop practice guidelines in this area.

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SESSION: MANAGING RISK IN CRITICAL CARE

Critical Incident Reporting – a chance to learn

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Patient safety as an essential sign of care quality has moved into the focus of interest of all health care providers. Reducing mishaps from medical management has become a central effort to improve quality and lower costs in health care. One method in the safety concept is system analysis. This concept indicates failures in the whole system to be responsible for many of the events occurring in health care.

There are many factors – not only the human risk factor - which contribute to a medical error and each must be dealt with to provide patients with the utmost safety.

Critical Incident Reporting as an element of risk management is a method to reach this goal and it involves the identification of preventable events, reported by personnel directly involved in the process. The following case analysis will lead to the proposal of

changes to avoid future similar events.

A principle condition if one wants to learn from incidents is the change from a culture of blame to an open safety culture, where mistakes are seen as a chance to improve processes. But although there are obvious benefits of critical incident reporting most hospital reporting systems fail to capture the majority of errors and near misses. There are still some long lasting misconceptions and scepticism against the system.

This lecture shows up the basic conditions for a successfully running incident reporting system and tries to find an answer to the question why these systems are still not really accepted among the health care professionals.

Reporting adverse events in ICU: a collaborative safety reporting system (RS) in four intensive care units

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Background and methodology

Data from the USA demonstrate that many deaths are annually reported from medical errors and that about 17% of ICU patients suffer serious adverse events. To improve safety, identify threats and hold hospitals accountable for safe practices, new methods such as internal reporting systems recognizing and preventing hazards are needed. However, few institutions or units are currently developing plans for reporting errors. We therefore developed and implemented a nonpunitive, spontaneous and patient-confidential incident RS in our multi-site hospital ICUs (33 beds; 3021 patients admitted in 2003; 9295 patient days/yr) of the Ente Ospedaliero Cantonale of Canton Ticino, mainly aiming to analyze factors from reports that contribute to incidents and use this knowledge to improve patient safety.

Results

During the first 6 months, 584 reports (nurse: 80%; doctor: 19%; others: 1%) have been irregularly submitted, mostly in very severely (61%) or severely (29%) ill patients. 45% of reports have been recorded by eyewitnesses. The respiratory and cardiovascular systems accounted for 51% of submitted events and for the most reported errors during invasive procedures, while among the non-invasive procedures, medication and communication errors were the most reported events (34.7%, respectively 30.8%). Concerning medication errors, a wrong dosage in function of time and a wrong starting medical prescription (24.6% respectively 22%) were the most reported errors. 9% of the incidents occurred during transport outside the ICU and 29% during week-end days.

Conclusions

The RS works, with the nurses completing most of the reports in spite of personal motivation barriers. Common types of errors are slips and lapses, guidelines not being followed and high incidence of communication and medication errors. Future directions should focus on understanding barriers to reporting, developing and implementing data-managing systems and preventive expert analysis combined with evidence-based initiatives to improve patient safety.

The development of an inter/intra hospital transfer course for the critically ill adult patient in south east England.

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Aims of the presentation

- Discuss the reasons why this course was devised and necessary according to published evidence and the service need in South East England
- Present the syllabus and content of the course and how it relates to inter/intra hospital transfer.
- Discuss how the course was taught, delivered and assessed in both the classroom and practical environment.
- Present candidates evaluation findings for the course and discuss how the course aimed to enhance critical care practice.

Abstract

It is estimated that in excess of 11,000 critically ill patients are transferred in the UK per year and this figure is increasing (ICS 2002). Hospitals are also transferring critically ill patients internally on a daily basis between different departments, however staff may be unaware of the complications that may occur during intra hospital transfer (Martin 2001). The UK Intensive Care Society (ICS) (2002) state that critically ill patients requiring transfer are often managed by inexperienced staff who have either received little or no training in transferring patients. The ICS (2002) states that courses for transferring critically ill patients should be developed so that staff have the knowledge and experience to undertake safe transfers. Currently in the South East of England there is considerable reconfiguration of acute services between different hospitals which means an increase in the number of inter hospital transfers. Due to reconfiguration of services and the evidence highlighting practitioners' deficits in transfer skills and knowledge, it was decided to devise a course to address these issues.

This oral presentation aims to show the development, content, delivery and evaluation of this new multi-professional transfer course. The presentation will focus upon the content of the course, relating to stabilisation strategies, methods of transfer, physiological effects of transfer, monitoring and assessment, communication, equipment failure, ambulance equipment, patient deterioration in transit, care of ventilated patient, legal and ethical issues in transfer and specialist transfer for specific conditions e.g. burns. The presentation will discuss how these sessions were taught using both classroom teaching and practical simulated scenarios in a clinical skills laboratory. The course has also been developed in collaboration with Kent Air Ambulance Trust and Kent Ambulance NHS Trust who participate in the teaching of aeromedical transfer and land transfer.

The course is assessed by practice learning outcomes related to transfer and a practical examination. Following successful completion of the course staff are awarded 15 academic credits which can be put towards a post-registration degree. The presentation will portray the evaluation results from practitioner's who have undertaken the course which demonstrated that skills and knowledge of hospital transfer significantly improved. The session will also analyse the difficulties of devising and running the course within the South East of England.

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Continuing stroke and a nursing intervention to deal with it

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Background

Stroke is the third commonest cause of death in Western societies, but the first reason for disability with a heavy financial burden on individuals, families and the health systems. Nearly one third of all strokes will worsen in the first 72 hours. Progressing stroke is a well established condition which has been described as continuous deterioration of the patient's neurological condition which is due to either non reversible reasons (brain herniation, extensive hemorrhage, extensive brain oedema) or possibly reversible (hypoxia, arrhythmia, blood glucose shifts).

Presentation objectives

Stroke patients should be treated in stroke units which have been shown to be effective in producing better outcomes. However, stroke units do not exist in most countries due to lack of funding or expert personnel. Yet, the principles of stroke units can be exported to medical wards or wherever else strokes are treated. This would be a good compromise between purpose (better outcomes) and means (existing wards and personnel).

Presentation content

Progressing stroke could be detected and treated during hospitalization by the use of a close Nursing Monitoring System (part of an Integrated Pathway for stroke) which is based on the Scandinavian Stroke Scale and the Glasgow Coma Scale plus routine nursing observations such as blood pressure, temperature, pulse and O₂ saturation, in an organized, timely manner with clear instructions on what to do if any of these is abnormal.

Conclusions

It is now widely accepted that the use of structured paths by specialized nursing staff is a key factor for securing improved outcomes for our patients.

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The usefulness and effectivity of a new electrocardiography belt in taking electrocardiography

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Background

Reliable technological devices reduces the repetitions, gains more time and provides more reliable measurements with physiological variable(1,2).

Aim

We aimed to investigate the effectivity of electrocardiography belt which was used to take electrocardiography (ECG).

Methods

The research was designed prospectively. The patients were referred to Coronary Care Unit of GMMA (Gülhane Military Medicine Academy). Two electrocardiographies were taken in the same patient using two different technique. The first ECG was taken by a classical electrode method with 12-separate leads, including 6-separate chest derivate; the other was taken by a new technique, electrocardiography belt. This belt (Topuz Apron, Israel) includes only 6 chest derivates in association with extremity leads. The control group comprised of the results of ECG taken by the classical technique whereas the study group consists of the results of ECG taken with the ECG belt. The study was performed from October 1st to December 30th and included totally 50 patients.

Results

Thirty-three patients (%66) included in the study are male; 17 (%34) of them are female. Of male patients, 28(%85) have chest hair. There were 7 (%14) mistaken ECG in the control group as a result of displacement of electrodes. All mistaken ECGs were repeated. There was no mistaken ECG in the study group. The average time for ECG taken with conventional electrode method was 3.0 ± 0 min whereas the average time for the ECG taken with the ECG belt was 1.0 ± 0.3 min. There was a meaningful difference between two data ($p<0.05$). Thirty-nine patients (%78) were irritated because of gel while taking ECG with classical method. Forty-nine patients (%98) revealed that they prefer taking electrocardiography with ECG belt. According to the patients, reasons of this preference were shorter time and no usage of gel.

Conclusion

Usage of ECG belt reduces time spent for ECG taking, prevents mistaken ECG and the irritability of gel. Also, shave of chest hair is unnecessary while taking ECG with belt.

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Educational needs of nurse managers in Greece

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Aims

The aim of the study was to identify the educational needs of

nurse managers, specifically what a nurse executive would need to know. So that the program in nursing administration might be reshaped. The curriculum should clearly reflect the competencies that are necessary for today's practising nurse executive. This study also highlights the scope of responsibility and the essential skills of the nurse executive.

Method

Questionnaire was used as a method of data collection. A scale from 1 to 5 estimated each question. The sample (n=100) was nurse managers from 29 large General Hospitals of the National Health System in Greece (10 hospitals in Athens, 4 in Thessalonica, and 15 in other cities). Nurse managers were classified in seven groups according to their personal and professional characteristics. Chi square analysis was employed to analyse the results.

Results

The study found that:

- Nurse administrators were poorly prepared as managers (for example, their responsibilities are "limited" in the hospital, and they did not have the ability to plan nursing budgeting)
- Management preparation was not in balance with nursing knowledge
- Nurse managers who had undertaken a post-registration course, were willing to obtain further management education
- Nurse managers who had not undertaken any post-registration course, were not interested in further management education
- Nurse managers need further knowledge in planning, organising, communicating, financial budgeting and marketing, in order to work effectively.

Conclusion

Nurse managers in Greece need to obtain further management knowledge. Consequently, curriculum might be enriched in management courses.

Administration of solid oral drugs via gastric tube

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Introduction

In hospital it is normal practice to crush up solid drugs to be submitted via gastric tube after their dilution in water. This practice is not always correct as there are moments when it does not guarantee an effective therapy. Considering and wishing to revise this, we compiled a Guide together with our Head Pharmacologist. The majority of patients admitted to ICU have a gastric tube for enteral nutrition, oral drug administration or the draining of gastric juices. It is not always possible for patients to swallow oral drugs and nurses are obliged to crush them up before administration. Due to different pharmaco-technical features this is not always correct practice. We carried out an initial search of the oral drugs which are most prescribed by doctors, going on to list the drugs which can or cannot be crushed. When in doubt we consulted our Head Pharmacologist. We emphasised the recommendations drawn up from international literature.

Objectives

1. To guarantee a correct administration of these drugs together with their rapid efficacy
2. Compile a Guide together with the Hospital Pharmacy of drugs administered via entero-gastric tube listed in the official Pharmacy Handbook of Drugs.

Method

Reading of all explanatory sheets of the most commonly employed drugs in our ICU. When in doubt we consulted our Head Pharmacist.

Results

Elaboration of a Table of Drugs which can or cannot be crushed up. We found that about 15% of commonly employed drugs cannot be crushed up.

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The "sandwich" medication: a new method to prevent central venous catheter infections: A randomized trial

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Aims

80% of central venous catheter (CVC) infections starts from skin pathogens. Excessive CVC manipulations increase risk to develop catheter-related bloodstream infections (CRBSIs). We evaluated 2 different medication methods: on one hand, the catheter was kept apart from skin by including it between 2 transparent sheets, so that the insertion site remained the only point of contact of CVC with the skin; the casing remained always closed for all the catheter's life ("Sandwich" medication). On the other hand, we adopted traditional type of medication, in which the CVC remained on the skin surface and it was covered by a single transparent sheet; the medication was opened and the insertion site disinfected every 48 hours ("Flat" medication).

Methods and outcomes

Clinical, prospective, randomized trial in adult ICU patients, who received bilumen 7 Fr. central venous catheters in subclavian or jugular internal vein, from March 2001 to June 2004. Primary outcome was infected catheters number/1000 days of catheterization; secondary outcomes were: CRBSIs/1000 days of catheterization, skin colonization around the insertion site, catheters' number, medications' number, length of CVC in site, length of antibiotic therapy, length of ICU hospitalization, mortality at 14 and 28 days.

Results

The 152 patients randomized (81 in the "Sandwich" group, 71 in the "Flat" group) received respectively 100 and 87 catheters. There were no differences in all considered outcomes between the two groups, except for the number of medications made: 1,65 medications/catheter the "Sandwich" group versus 4,38 the "Flat" group.

Conclusion

"Sandwich" medication is a safe and efficient method of CVC's management; it consents a reduction in nursing time, contributing to the cutting of critical patients for health expenses.

Welcoming and supporting student nurses to ICU: An initiative of one French hospital

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Proposed presentation

In this discussion, the introduction and supervisory support for student nurses in a multi-purpose intensive-care unit (ICU) was developed. A team of nurses of the adult ICU of Soissons (France) reviewed the welcoming and supervisory resources of nursing students on placement. For that we used quality tools (brainstorming, diagram of Ishikawa), created a booklet and evaluated its contribution for student learning.

Discussion

The evaluation describes the introduction of students to the unit, supervision, the assessment of a training course, the benefits, the proposals for an improvement, and the contributions of the booklet.

Outreach: A programme for early recognition and treatment of critically ill patients in a university, secondary and tertiary hospital

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Background

The early identification of patients with potential early organ failure is the key in preventing admission or readmission to a critical care facility. The primary goal of the Outreach project is to ensure that all patients with threatening organ failure receive appropriate and timely treatment in a suitable area.

Aims:

The aims of the study are to determine whether the introduction of an intensive care unit based medical emergency team, responding to hospital wide preset criteria of physiologic instability, will decrease the number of predefined Serious Adverse Events (SAE's) and to study the effects on quality of life and costs in general surgery patients.

Method

A multi centre longitudinal intervention trial with a before and after design in a university hospital, and a secondary and a tertiary hospital. The intervention consisted of three parts: 1. The introduction of a hospital wide intensive care unit based medical emergency team to evaluate and treat patients deemed at risk for developing an adverse outcome. 2. Education and re-skilling of ward staff in the recognition and basic management of patients developing a critical illness. 3. The development of an intensive care (nurse and physician staffed) consultancy service for general wards.

Study population

The population for this study consists of patients undergoing major general surgery with an admission stay more than 48 hours. It includes patients undergoing central or peripheral vascular surgery, major oncological surgery, lung surgery major abdominal surgery and trauma surgery.

Measurements and Outcome

In total 1500 patients will be included. (750 Patients in the before period and 750 patients in the intervention period) In this period the incidence of Serious Adverse Events, HRQoL Quality of life EQ-5D and Patient-Centred Diaries, cost of care and cost of the Outreach intervention will be measured.

Time schedule

Data collection starts 1 January 2006 and stops no later than three months after the inclusion of 1500 patients or 1 march 2008. Final report of the study will be in December 2008.

The role of the preceptor in developing strong critical thinking and interpersonal skills

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Background

MeTT is a multi-organ transplant and specialized therapies centre, is a joint venture with two public hospitals of the Sicilian region and the University of Pittsburgh Medical Centre (UPMC). This state-of-the art centre in Palermo has transferred medical technology and training to the nursing workforce since the start of clinical activity in 1999. As the clinical activity of the institution expanded and with the opening of a new facility, the need increased for prepared, experienced nurses trained in the UPMC nursing model of transplant and specialized therapies.

Aim

In order to transfer technical knowledge to newly hired nursing staff, a preceptor program patterned after the UPMC nursing model was established. Experienced IsMeTT nursing personnel were selected and trained to precept staff in developing critical thinking and interpersonal skills.

Results

Classes for the development of preceptors were held for senior nursing staff. After formal preparation, the preceptors were assigned to the new staff. The preceptor paired with the new hire, spent from four to six weeks together on the clinical units, depending on the progress as evaluated by the preceptor. The preceptors supported the development of the new staff by applying theory to practice in the clinical area. The presentation will provide concrete examples of precepting strategies to develop critical thinking and interpersonal skills.

The preceptors reported satisfaction in this new role. The new staff also reported satisfaction with the orientation process.
Implications

We learned that both the orientee and preceptor need ongoing support from the management and Nursing Education Department. Development of critical thinking is continuous learning and application. After completion of the orientation period, the new staff must receive continued support and reinforcement. In an environ-

ment that promotes personal and professional growth of nurses, an improvement in the quality of care is a realistic expectation.

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Intensive care unit protocol for the care of patients with a hepatic transplant: Handling immediate post-operative stage

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Introduction

The attention of nursing in the immediate postoperative stage of the hepatic transplant is of complex magnitude due to physiological alterations.

Aims

To anticipate, to identify and prevent additional complications, including: haemorrhage, hypo-volaemia, thrombo-embolism, aspiration, acute renal failure, electrolyte disorders and rejection of transplanted organ.

To promote the well-being of the patient and to realize the contribution of the family in detecting changes in the patient's condition.

Methodology

Sequential description of the activities on the arrival of the patient to the intensive care unit in relation to the patient with a live transplant:

- Connection to mechanical ventilation, adjustment of parameters and alarms.
- Monitoring of arterial pressure, cardiac frequency, temperature, pulmonary arterial pressure, pulmonary capillary pressure and alarms.
- Valuation of the level of conscience, psychomotor responses, pupil reactions to light and response to pain stimuli.
- To monitor gastric and fluid losses and replace as necessary.
- Monitor venous central and peripheral accesses and restore the pharmacological treatment and the immunosuppressant.
- To place the patient in position semi-Fowler position.
- Support the family.
- Evaluate complementary tests.

Guidelines of performance

Description of the physiological alterations caused by the magnitude of the intervention and the later managing:

- cardiovascular system: high cardiac expense and low peripheral resistance, arterial hypotension, arterial hypertension. Respiratory system: unplanned extubation.
- renal system: acute/moderated renal failure post
- in postoperative evaluation hemofiltration/dialysis:

- haematology: leucopenia, thrombocytopenic, level.

The nursing education on the management of health care waste

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Background

Japan has many kinds of problems by health care wastes which are not only individual matter such as infection accident by needle, but also international problem such as illegal export for discard. Although every year accidents related to health care waste occur, nursing education concerning to health care waste has just getting started. However, this study challenges the idea that nurses are able to take on a new role for their adequate treatment.

Aim

The purpose was to identify educational content concerning health care waste in Japanese nursing schools, and analyzing the results could suggest the sense and importance to learn them in nursing education.

Method

Questionnaires, each consisting of 27 items which related to the treatment and problems of health care wastes, were sent to 303 nursing schools in all areas of Japan and 93 of them (30.7%) returned completed questionnaires in June-September 2002. The data were subjected to factor analyses (initial factor method, varimax rotation), and five factors with 20 items were identified.

Results and implications

Each factor was named with educational meaning, as follows: (1) machinery and cooperation of the safety treatment, (2) outline of health care wastes, (3) control of infectious wastes, (4) notice of concern for the environment, (5) role as a person who disposes of health care wastes. At present it is limited to treat these wastes only by mechanical engineering, but there is not right stuff yet in medical area. This study results show that it has already started to learn about health care wastes systematically in nursing education area. If we can promote the education, including both motivation and training, we can establish a new waste management role in the medical area.

Analysis of a case of cancer pain (total pain) according with variable care complexity

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Background

The model for care complexity analysis considers the patient according with three dimensions influencing one another; it lets, through the definition of the needs, the determination of nursing care necessities within the multiprofessional team.

Those dimensions are: health/illness condition; understanding of the own necessities in relation to health/illness condition and aware choice of the suitable behaviours; possibility to carry out independently the actions and the behaviours to be undertaken.

Aim

To analyse the three dimensions, the patient's needs, the contribution of nurses within the team, the characteristics of such contribu-

tion and the competences necessary in order to realize it. This study refers to the current Italian nursing law: 739/94 (Professional Profile), Ethical Code 12/5/99 and basic and post-basic Nurse Education System.

Results

Pain is a critical element that interferes with the above dimensions. The management of "physical" pain needs an elevated integration of nurses with doctors. Specific/exclusive nursing activities are: to warrant a correct application of diagnostic-therapeutic prescriptions, monitoring of symptoms and side effects, pain and quality of life evaluation. Comprehension/choice dimension: it is necessary an elevated and exclusive relational and educational nursing competence, for patient and family ("not physical" pain). Autonomy/dependence dimension: the exclusive nursing activities are care planning, formation/training and supervision of people that contribute to satisfy patient's needs. All these competences result from basic and post-basic Nursing Education with a specific reference to the palliative care.

Implications

The patient with pain has an elevated care complexity; multiprofessional team work with health, social, psychological competences. In this multiprofessional team nurses play a specific and important role. Key elements are integration, care continuity and relation.

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Quality of life and burnout in critical and non-critical care unit nurses

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Aim

Job-induced stress affects, according to the literature, the physical and mental well-being of hospital nursing staff and negatively influences health-related quality of life (Bourbonnais et al 1998, Olofsson et al 2003). The purpose of this study was to investigate and compare these issues with respect to the workplace, more specifically Critical and non Critical Care Units.

Methods

The sample comprised of 347 Greek nurses of whom 198 worked in Critical Care Units and 149 in non-Critical Care Units. Their average age was 35.38 and 36.01 years respectively. Data collection was performed with two validated psychometric instruments, namely the SF-36 Health Survey and the Maslach Burnout Inventory (MBI). Correlation coefficients were computed to indicate the strength and direction of existing relationships between variables and parametric tests (t-test, ANOVA) were performed to ascertain the statistical significance of the observed score differences.

Results

For the whole sample, strong positive correlations ($P < 0.01$) were observed between MBI factors (emotional burnout, depersonalization and lack of achievements) and SF-36 mental health scales, i.e. mental health, role emotional, social functioning and vitality. The physical health scales, i.e. physical functioning, role physical, bodily pain and general health, demonstrated significant associations ($P < 0.01$) only with emotional burnout. As expected, the nursing unit was not found to have a significant effect on either health status or professional burnout since critical and non-critical care nurses scored similarly on all scales.

Conclusion

The results confirm that physical and mental health of nurses is affected by job-induced stress, but not by the specific units where they work. Taking also into consideration the observed effects of demographic and other factors on health-related quality of life, we formulate proposals to prevent professional burnout at the individual nurse level and also to cope with the issue in terms of policy making.

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Model of intensive care nursing

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Aim

The aim of the study was to develop the model of intensive care nursing (MICN), which describes patient's and significant other's nursing and manpower resources.

Methods

MICN was developed in Oulu University Hospital's intensive care units (ICUs) for emergency and postoperative care and internal medicine during 1997-2004. MICN was made compatible with the ICU data system Centricity Critical Care Clinisoft, Deio Corp. (Helsinki, Finland). The validity of the model was evaluated by analysing patients ($N=1464$) data. The nursing manpower resources were compared between the model and the Therapeutic Intervention Scoring System (TISS) based on the patients data ($N = 832$).

Results

MICN includes nursing diagnoses of the changes in the patient's vital functions ($N = 16$), the restrictions ($N = 3$) and experiences ($N = 3$) caused by the disease and its treatment and the family members' distress, the nursing interventions and nursing outcomes as well as the nursing workload and needed nursing staff resources. Based on the validity study, MICN differentiated between the nursing interventions needed by the patients in different admission types and

with different severity scores ($p < 0.001$). MICN provided a good prediction of the patients' risk of death (ROC 0.86 - 0.91). Contrary to TISS, MICN gave higher nursing workload scores and a greater need for staff for the patients who were more ill on admission, and whose ICU stay was longer and mortality higher.

Conclusion

MICN describes holistic care for patient's and significant other's and gives additional information about nursing outcomes and manpower resources.

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A poster presentation as an assessment tool

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Background

The impact of educational activity on practice is currently under scrutiny. There is a need for Higher Education institutions to develop and design courses that meet the needs of practitioners and service in terms of the creation of a practitioner that can practice effectively within the clinical environment and also actively participate in practice/service development. The intensive care and high dependency courses offered by the University of Central Lancashire provide learning opportunities that enable students to contribute to the development of local practice.

Strategy

An assessment strategy has been devised which requires students to develop a poster related to a specific practice issue, which is displayed within their own clinical area. In developing the poster students are required to review the evidence base, identify 'best practice' and make recommendations for change in local practice. Students produce a 1500 word summary of the contents of the poster identifying the key points and providing a rationale for actions suggested. This provides an additional resource to support the poster presentation. The topic is discussed and agreed with the student's mentor and/or manager, which serves to ensure its appropriateness and usefulness to the clinical area. This strategy ensures that key staff in the clinical area are able to guide students to address areas of need, which contributes to meeting clinical governance agendas.

Evaluation and Outcome

Feedback received from both the clinical areas and students is very positive. This strategy provides students with the opportunities to develop a number of research and study skills; they study a specific issue in depth; develop and use IT skills; identify, obtain and retrieve information; enhance their communication skills; and broaden their professional networks. This presentation will share our experiences and those of students in using and participating in this assessment strategy.

Increasing political awareness: a challenge for nurses

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Introduction

Nursing and the provision of health care are increasingly influenced by political agendas. Many nurses are uncomfortable with the idea of politics, seeing it as an undesirable distraction from the delivery of care but politics impacts on every aspect of nursing. Knowledge of political systems is vital if nurses are to contribute fully to debates on the allocation of scarce resources and the future directions of the profession. This presentation seeks to discuss a strategy for raising awareness of health policy and its impact in care provision in nurses undertaking critical care courses.

Strategy

Students attend a lecture that introduces political concepts and outlines the process of policy development. In small groups they consider a specific health care policy in terms of its influence and implications for nurses, patients and the hospital. To feedback this information a poster is developed to convey the key points, the poster is supported by a short 10-minute oral presentation.

Outcome

The evaluations indicate students find this activity informative and enlightening. They identify an increased awareness of how politics affects them and their patients. They find the production of the poster challenging and the oral presentation daunting, however, they are able to articulate the benefits. Following the seminar activity students have taken their posters back to display in clinical areas. As a result the seminar has had wider impact.

Conclusion

The International Council for Nurses has declared that one of its key objectives is to improve nurses' political expertise. This strategy creates a starting point for nurses to begin to develop their political awareness. The next challenge is to begin to develop nurses' ability to recognise and actively contribute to the processes involved in political decision-making.

Is postoperative pain still an actual problem in nursing?

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Background

The problem of postoperative pain is common for many disciplines of nursing. The nurses in anaesthesiology and intensive care also encounter it taking care of patients in postoperative period. Al-

though there are many various methods of relieve of postoperative pain researches show that patients still suffer moderate to severe pain.

Aim

The aim of the study was to analyse the results of researches concerning the level of patients' pain following various operations.

Results

The researches were conducted among 285 patients treated in three university hospitals in Poznań and Wrocław. The level of patients' pain (n=100), who underwent surgery (surgical, orthopaedic, gynaecological, ophthalmic, transplant) was studied. The patients were in a postoperative room. The operations were done under general (87%) and spinal anaesthetic (13%). In pain assessment the VAS was used. 38% of patients were in mild pain, 30% in moderate and 18% in severe pain.

The second study assessed the level of patients' pain after throat diseases operations (n=85) on the day of surgery and on the first, third and fifth day after it. General (80%) and NLA (20%) anaesthetic was done. Both, on the day and on the fifth day following surgery patients suffered moderate to severe pain. In the next study the level of patients' pain (orthopaedic surgery) according to the VAS was tested (n=100) and also how effective an continuous spinal analgesia in reduction of postoperative pain was. The patients were in mild pain when continuous spinal analgesia was applied, however in moderate to severe pain when analgesic drugs were administered intravenous or intramuscularly.

Implications

The researches show that postoperative pain is still an actual problem. Treatment of postoperative pain is often administered according to physicians' or nurses' ideas about how much patients are in pain which mostly doesn't fit their own feelings. It is necessary to use proper standards and regular pain assessment by means of available scales.

Pharmacology in the paediatric patient during emergency

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Purpose

Understanding the difference in treating paediatric patients is essential to provide medication in safe doses and in appropriate ways. This is especially true in emergent situations when medications have to be provided quickly. Therefore it is the practice in the ICU and the step-down units that the secretary prepares a sheet for each child that is admitted that displays the child's weight with appropriate doses of emergency medications.

Methods

The main goal is to provide the nurses and physicians with a reference that lists safe doses of emergency medications for the child's weight. The sheet contains all emergency medications as well as the proper doses of intubation medications. The sheet is placed in the patient's room in a visible location and if the child is transferred from the ICU the sheet goes with them to the step-down unit.

Outcomes

Nurses and physicians in the ICU and step-down are familiar with the emergency medication sheets. The sheets have been referenced in emergency situations as a double check for ordered medications.

Conclusions

The nurses and physicians are familiar with the resource of the medication sheets and have found them useful in situations that require quick reaction. The hope is that the nurses will become familiar enough with using them that they will immediately reference them in critical situations and diminish the response time.

Pain management in paediatric critical care: dealing with cancer pain?

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Children pain related to cancer is a complex, multidimensional phenomenon composed of physical, sensory, cognitive, social and behavioural components.

So pain assessment is a vital preliminary step towards the satisfactory control of cancer pain (WHO 1996). Inadequate pain assessment is one of the most important factors that determine under treatment (Stjernsward and Theoh 1990; Gonzales et al. 1991); although aetiology and pathophysiology of pain have been described comprehensively, epidemiological data are rare. In fact cancer is a complex disease, characterized by both acute and chronic episodes and children remember and live these situations every day. So the primary goal for both patients and care providers is the pain management in every his form, together with a return to normal life, or a health-related quality of life assessment, as far as possible. Health-related quality of life is characterized by multidimensional and subjectivity, but nurses have to know the most important criteria to make the difference between practice and best practice. The Evidence based nursing is proving the cognitive therapy rule in the pain management and the children can improve their health related quality of life without drug, or on a small scale. The paper treats the use of relaxation techniques, music therapy and distraction protocols.

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A training project for emergencies

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In Italy, the emergency Medical System was established in 1992,

and responds to the telephone number 118. Since 1992 doctors and nurses have officially entered the system, which was previously run mostly by volunteers. In the Lazio Region the emergency medical system began in 1995 and the 118 of Rome and its province became the largest in Italy. It is also rather unique because it is the only one in Italy using personnel trained especially for emergencies in its territory, with 461 nurses, about 50 doctors, 355 drivers and 285 auxiliaries, covering 120 communities including the city of Rome. Every day at Rome's operational centre around 2000 calls are received, of which 800 are real health emergencies for which ambulances are used.

The varied cultural backgrounds and experience of the personnel has caused an imbalance due to scarce preparation on specific actions to be taken on pre-hospital assistance. The analysis emerged during training on Lazio's Emergency System 118, which took place in 2001 and from which emerged the following objectives:

- Standardize training on knowledge and competence regarding basis CPR (cardio-pulmonary resuscitation) for adults and children
- Train and set up, according to the law, non medical operators in the use of DAE (semi-automatic defibrillator)
- Standardize competence, according to levels of responsibility, of the personnel involved in assisting the injured
- Acquire basic knowledge on security and management of scenario of major accidents (including NBCR security risk)
- Provide uniform and shared training for a System for Health Emergencies
- Reinforce the values of the team work

From November 2001 to December 2004 courses were carried out for a total of 4455 persons. During the planning, programming and organizational stages the nurse has played a fundamental role, which is also the case during training activities.

This paper presents the results of three years' work dedicated to the emergency project in the territory.

The role of the master's prepared Senior Nurse in the improvement of in hospital cardiac arrest registry in a county hospital of Tuscany, Italy

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Aim

The affirmation of Utstein style, which is a hospital cardiac arrest registry is the international standard. The standard is less well established in Italy. We have analysed data reported by MSN, for outcomes and follow up, relative to the in-hospital cardiac arrest can promote the local registry, "Registro Arresto Cardiaco Ospedale di Nottola" designed along the Utstein guidelines.

Methods

Data was collected from January 2001 to December 2004. The setting was a small country hospital of Tuscany comprising of 184 beds. All patients with in-hospital cardiac arrest and treated by resuscitation-physician were included in the study. For data reports, we used the standard intra hospital RCP sheet. The Glasgow Outcome Score (GOS) was used for Outcome assessment.

Results

Resuscitation was attempted in 67 cardiac arrests: Return of spontaneous circulation occurred in 45% of victims. Of the survivors, 18 (26.8%) were discharged home from hospital. Follow-up data indicated that 47% of patients died within 3 months after discharge, the rest experienced a survival period ranging from 17 to 40 months. Of the six survivors, 3 has a GOS of 5, two had a score of 4 and one had a GOS 3. We found, in the same period, a very large number of in-hospital death rate of 1204. These patients are not treated by the emergency team.

Conclusions

The resuscitation result in our hospital is similar to the international data. But, we need to improve number of ALS attempted by emergency staff and improve the Registry ACON. The role of the senior nurse, like the RACON coordinator, gave us the opportunity to improve a new organization of in hospital emergency response through the implementation of training for emergency personnel: - qualified instructors and faculty to train emergency response personnel to ALS; - training personnel about use of RACON sheet report.

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Nursing care of adult patients receiving HFOV

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In a period of 6 yrs (2000-2005) the HFOV was used in the group of 50 critically ill patients for treatment of ARDS. We found the difference in nursing care compare patients on conventional ventilation in several points:

- hygiene daily procedures, diagnostic examination and therapeutical procedures (x-ray,CT, echocardiography, central venous cannulation)
- titration of deep sedation or/ end neuromuscular blockade to prevent the spontaneous ventilation and spontaneous movements
- exact care after the endotracheal tube based on the stiff direct connection of the patients airways to HFOV circuit

- prevention of circuit disconnection with mandatory use of closed suctioning system
- 5. control of high water input/output by vaporizer on high CDP level
- patient temperature/ circuit temperature control
- continuous control of HFOV parameters (CDP, delta P) frequent acid base and blood gases evaluation - interpretation
- continuous control of SpO2 a arterial pressure changes - interpretation
- communication to family members, explanation of the HFOV approaches

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A comparison of nurses' shift reports using paper versus an electronic system

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Introduction

The introduction of an Intensive Care Information System (ICIS) implies several modifications in nursing processes. One of them is the way the nurses' shift reports is noted. In the ICIS there have been configured a number of fixed items in advance. Beside that, there can always be written some free text the way it is done in a shift report on paper. The aim of this study was to examine the impact of the introduction of an electronic patient file on both the quantity and the quality of the nurses' shift report. Approximately 1 year after setting-up, we also wanted to know if a free text field is still necessary beside the fixed items in the ICIS.

Methods

A retrospective comparative study, with 100 adult patients who were incorporated in 2003, or 2004, on a 26-bed surgical ICU of the university hospital of Ghent. Fifty ad random selected paper reports were compared to fifty electronic files. Only patients with a minimum length of stay of 48h were included (because the second day was examined). Hundred days were therefore checked, where for the quantitative part of the study the number of shift reports was examined per day. In the ICIS we also checked how much the fixed variables in the shift report were filled in. We thereby recorded which variables were mostly indicated. For the qualitative part, 26 variables which are important within a qualitative good shift report were selected. The investigator analysed how often the variables occurred in the shift reports on paper and in the electronic reports. For that analysis, only those days with at least 1 shift report per 24h were examined.

Results

The quantitative comparison revealed that shift reports are significantly more written in the ICIS than on paper (p<0.001). This result is even reinforced when the fixed variables in the ICIS are taken into account. The fixed variables are completed in the early, late and night shift respectively in 95.5%, 90.2% and 95.5% of the cases. Variables that were indicated in more than 80% of the cases gives among others information concerning: the cardiac and

hemodynamic situation of the patient, the type of ventilation (if relevant), preventive measures for infection control. The univariate analysis of the qualitative approach showed that using the ICIS, 7 variables were more significantly scored (e.g. description or definition of the symptoms of the patient, treatment, interventions during the shift, behaviour of the patient, modifications in therapy and cross-functional contacts).

Conclusion

- This research reveals that introducing an ICIS had a clearly positive impact on quantity and quality on writing nurses' shift reports. Follow-up actions will be organised to further improve the quality (of the content) of the shift report and to obtain more standardisation.
- Beside the fixed variables there is apparently further need to a free text field within the shift report in our ICIS.

Quantitative assessment of nurses' work in intensive care units: comparison of the tiss-28 scoring system with the classification system used in Slovenia

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The treatment and nursing care of patients in intensive care units calls for a highly qualified health care team. From the perspective of present-day nursing, the work of nursing staff is recorded, planned and evaluated with regard to the patient's needs. The first classification systems for nursing care were designed to provide an objective record of nursing workloads, which would serve as a basis for calculating staff requirements. With further development, new goals were added, including formulation of staffing policies, economic calculations, planning of financial resources, assessment and analysis of costs, and evaluation of performance and efficiency. The classification system used in Slovenia is based on the San Joaquin system of nursing care classification, which divides patients into four categories. The least demanding patients are placed in category 1, while those with the greatest requirements are placed in category 4. The Slovene version is adapted to our environment, taking into account our cultural background and organization of health services in Slovenia. The system uses 11 criteria, related to the patient's independence in specific daily activities (e.g. personal hygiene, ambulation, feeding and safety) and the required diagnostic and therapeutic procedures.

The majority of patients admitted to our ICU require category 4 nursing care. Serious infections, such as sepsis, meningitis, endocarditis and pneumonia with respiratory failure, are life-threatening conditions, which call for meticulous care provided by highly qualified and experienced staff. Nurses perform a variety of tasks, which are carried out either independently as part of the nursing process, at the physician's request or as assistance during various diagnostic and therapeutic procedures. The TISS-28 system clearly defines specific therapeutic measures and is widely used for evaluating the patient's condition, estimating the costs of intensive care and planning staff requirements in intensive care units all over Europe.

A prospective study comparing the TISS-28 system with the Slovene classification system for nursing care is currently in progress in our ICU. Its aim is to demonstrate that the TISS-28 system pro-

vides more objective estimation of nursing workloads in intensive care units and should therefore be used as an adjunct to our system.

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Experience of being involved in the TracMan trail – nursing perspective from a DGH viewpoint

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Background

Tracheostomies within the critical care setting are not new and have a well established role in the care of many of our critically ill patients. The TracMan trial funded through the Intensive Care Society will be evaluating the timing of tracheostomy undertaken within the critical care unit. The hypothesis in this trial is that in those patients who clinicians expect to require ventilatory support for more than 7 days that the insertion of a tracheostomy on Day 1 to 4 following the patients' admission reduces the mortality at 30 days compared with a tracheostomy inserted on or after Day 10. There will be a discussion around how we came to be apart of this trial and the role that nurses can have in such trials.

Aim

To share the experience of the Medway NHS Trust Critical Care Unit in being one of the first participants in this multicentred, unblinded randomised controlled trial: from a nurse's viewpoint.

The intended learning

- To raise awareness of the TracMan trial
- To present the issues that are most pertinent when there is nursing involvement in such a trial.
- To raise awareness of the Research Governance Framework

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Recent developments in the area of intensive care nursing in Turkey

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Intensive care: is a combination of methods that are used for the temporary placement of partly or completely dysfunctional organ

or systems and is the treatment of main causes of illness. Intensive care units equipped with the latest technology where nurses apply their professional knowledge and skills in these specialized units. Patients are in need of intensive medical support and nursing care in the intensive care units so that nurses who work in these units should display special characteristics in terms of authority, accountability and adequacy.

Intensive care nursing is a specialty that the Turkish nurses want to become a specialist in this area. Turkey does not have certificate programs that are settled on a legal base. Many interventions have been attempted in order to develop intensive care nursing in Turkey. One of the interventions is the establishment of the Intensive Care Nursing Association. This specialized association has been very active for the followings: supporting and carrying out studies related to improve intensive care nursing, organizing scientific meetings and education programs, being a part of determination of task, responsibility and authority activities, and publishing in the related area. One of the notable intervention is the beginning of the Intensive Care Nursing Course by the Ministry of Health, Nursing Department. The course program of the Ministry of Health's Nursing Department is organized by the nurses who work in the intensive care units and nurse educators and conducted for a two month period. The intensive care nursing course program is run by five different centers that have a strong structure and the certificates issued to nurses are approved by the Ministry of Health. In addition, various foundations, universities and private hospitals administer similar course programs in Turkey.

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Patients' experience in intensive care unit

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Purpose

The purpose of the study is to determine the experiences of cardiac surgery (CS) intensive care unit (ICU) patients on pain, communication, sleep-rest, security-privacy, nutrition and nursing care

Materials and Method

This study was employed with patients who had CS and were taken care for at least a day in ICU between the dates 01 January and 30 April 2005. The seventy four participants were older than eighteen years, literate, comprehend and speak Turkish and all participated voluntarily. The patients' age, sex, educational and marital status, surgery properties were collected by a patients identifying form. We used a semi-structured interview form to determine patient's experiences in ICU on pain, communication, sleep-rest, security-privacy, nutrition and nursing care. We interviewed with patients face to face after their discharge from ICU while they were in clinic. Wherever the patients' got tired, they were given time to rest. The evaluation of data was made by grouping open-ended answers and using ratios.

Findings

The mean of participating patients' age was 61,24±19,21. The mean of patients' duration in ICU was 3,47±2,17 days. While %72 pain, % 61 communication, % 66 sleep-rest, %78 security-privacy related problems were reported by patients', %67 of patients' reported that, they have no problems related with nursing care or nurses. The patients were to explain the problems they faced. The patients' answers were grouped and compared with other studies on the subject.

Current status of the patients hospitalized at Marmara university hospital surgical intensive care unit

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Aim

The aim of this abstract is to investigate retrospectively the patients numbers and situations who were admitted in a University hospital in Istanbul. And to determine demographic situation, patients dissociations, reason of admittance, number of intubations, pressure ulcers and discharge situation.

Method

Between January – December 2004, 415 patients were hospitalized at Marmara University Hospital Surgical Intensive Care Unit (SICU); 201 (%48.43) of the patients were women, 214 (%51.54) were men.

Results

Patient dissociation examinations determined that; orthopaedic patients are 54 (%13.01), otorhino-laryngology patients are 7 (%1.68), plastic surgery patients are 22 (%5.30), urology patients are 22 (%5.30), thoracic surgery patients are 42 (%10.12), general surgery patients are 87 (%20.97), obstetric and gynaecology patients are 4 (%0.96), and neurosurgery patients are 177 (%42.66). Out of the 415 patients admitted to the SICU; 376 (%90.61) were accepted for postoperative monitoring from the operating room. Of these, 19 (%4.58) were accepted because of the worsening of the general status during the clinical care in same hospital and 20 (%4.81) from outside.

Conclusions

The results indicate that 74 (%17.83) patients were intubated, 15 (%3.61) patients had a tracheostomy, 73 (%17.90) patients were on mechanical ventilation and 10 (%2.40) patients were on T-tube. The retrospective data findings determined that 27 (%6.50) patients developed pressure ulcers (2 were 3rd degree, 4 were 2nd degree, 21 were 1st degree ulcers) during one year in the SICU. Discharge observations of the patients reveal that, 363 (%87.47) patients were transferred to another clinic of the hospital because of they didn't need either ICU hospitalisation, 1 (%0.24) patient was transferred to another hospital and 51 (%12.29) were exitus.

What nursing positions are available at intensive care units in academic hospitals in the Netherlands.

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Aim

What nursing positions are available at intensive care units in academic hospitals in the Netherlands?

Method

Qualitative descriptive and quantitative research. Furthermore it has been investigated if the variety in structure and technology features between the units, as mentioned in van Linge's contingency model, can be explained by differentiated nursing practice.

Results

The Essence of differentiated nursing practice is that the 4 basic responsibilities of policy making, team management, task management and patient care are performed by different people. The statistical test of Kruskal Wallis showed, significant differences in communication, variation or diversity, workflow and formalisation by department and by hospital. Finally it has been investigated/ studied if there are any internal correlations between technological features and -structural features in the Van Linge's questionnaire, as used in this research project.

Conclusion

When the structure contingency approach is applied to the intervention differentiated nursing practice, it is advisable to regard differentiated nursing practice as development of the organisation or part of developing the organisation. It is not to be recommended to increase or decrease positions only because the 'fit' seems to be good

Quality of Care for the chronically ill child in the PICU

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Background:

Paediatric intensive care units (PICU) have significantly reduced childhood morbidity and mortality, and have generated a group of children with special care needs. These patients many of whom require long-term ventilation as a means of life support, accounts for a disproportionately higher amount of intensive care unit resources and have a prolonged stay on the PICU.

Aim:

To determine factors related to a prolonged PICU stay (> 4 weeks), and issues in the care of chronic paediatric intensive care patients for early quality and cost saving interventions.

Results:

Long-stay paediatric intensive care patients are defined as patients having a length of stay more than 4 weeks on a PICU. Overall, these patients were 3,2% of the population but represented 33,6% of the days of care. The length of stay (LOS) in the paediatric intensive care unit is a reflection of patient severity of illness and health status, as well as PICU quality and performance. The most common issues in the care of chronic paediatric intensive care patients are the complex growth and development of the children surrounding indefinite hospitalization and the low priority for family-centered care.

Implications:

Focusing on the creation of innovative methods for integrating the growth and developmental needs of these special children, is a challenging and often overlooked aspect of paediatric nursing practice. This also concerns integrating family-centered care on the PICU. Qualitative research is necessary to determine the needs and implications of such innovations for the child, family and the pro-

fessional PICU-nurse. Further it is necessary to explore strategies to reduce the LOS of the chronic paediatric intensive care patients.

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Severe meningococcal disease acute nursing care, the Dutch academic consensus

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Background:

The national PICU working group was formed in 2001 in order to develop national guidelines for the total nursing care for patients in the PICU. The severe meningococcal septic shock (SMS) was selected as initial objective, because of the serious and life threatening character of the disease. Also guidelines and additional information were needed by general hospitals. Adequate therapy and optimal care according to standard guidelines are important for patients with rapidly progressive meningococcal septic shock.

Aim:

The general aim was to optimise the overall nursing care for children with SMS in the PICU and general hospitals. Therefore the academic hospitals had to reach consensus in best practise or evidence based treatment and nursing care for every PICU and to present national guidelines for the total nursing care for a child with a SMS.

Methods:

At first the PICU working group defined the structure of the guidelines to be made. After that they collected from each PICU of the participating centres the nursing and medical guidelines. One member of each PICU worked on a specific part of the medical and nursing guidelines with the help of the pediatric intensivist. When the guidelines were made, all the members and the medical supervisors reviewed the material. After consensus the guidelines were achieved. The guidelines can be found on the internet: <http://www.picu.nl>

Results:

National nursing guidelines on total nursing care of the pediatric patient with SMS, divided in 6 items: treatment in the first 24 hours, transport to the PICU, clinical course in the PICU, transfer to the general ward, special care for parents and follow up and rehabilitation

Conclusion:

To improve the quality of care for SMS patients evidence based and best practise guidelines were developed on national level in the Netherlands.

On behalf of the Dutch PICU Working Group: Karen Hofmann (chairman), Jan Willem de Valk (vice chairman and secretary),

Digna van Geest (treasurer), Saskia van Boxtel, Truus Kooiman, Elna Walraven, Resi Moulen, Chantal Tersteeg, Petronette Jaarsveld and Christiana Horasiccama.

Post-Operative Confusion – Clinical Advice For The Care Of Patients With Post-Operative Confusion In The Light Of Three Nursing Theories. A Collaboration Between Psychiatry And Intensive Care.

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Background

Post-operative confusion is a relatively common and well-known condition in patients who are treated in intensive care units (ICU's). Between 20 – 60 % of all patients who are treated in ICU's exhibit signs of confusion. They find themselves in a psychosis-like condition and can have difficulty in co-ordinating thought and speech, in orientating themselves in time and space and in receiving and processing information. Some patients can have occasional unreal experiences. Suspiciousness, fear, anxiety and aggressive behaviour can develop. Certain patients become euphoric whereas others exhibit passive behaviour. Signs of post-operative confusion can develop two or three days after the patient's arrival at the ICU and can last for several weeks (1). The nurse is often the first person who notices the patient's confusion. At the same time, the nurse, together with other members of the care staff are viewed as being quite badly prepared to identify and adequately treat the various stages of confusion.

Objective

One of the objectives was to produce clinical advice, based on scientific literature, three nursing theories and practical experience, regarding the care of patients with post-operative confusion. A further objective was to produce an information booklet for patients and relatives affected by the condition.

Method

Literature studies and practical experience.

Results

In the light of the information we obtained from literature studies and from in-depth studies of various theories as well as from our own clinical experience we arrived at clinical advice which we divided into three parts: (a) preventative measures (b) what can be done once the patient has developed post-operative confusion and (c) what ought to be considered after an incident of post-operative confusion (an action plan can be enclosed on request). An information booklet, written for patients and their relatives, was produced.

Conclusion

In today's health service nursing staff often fail to notice that patients are entering an acute state of confusion and it is first noticed when the patient is agitated or confused. When the patient becomes agitated or paranoid s/he may need to be sedated, which can lengthen the time spent in the intensive care unit and thereby increase the risk for complications. Early detection of post-operative confusion is important in order to be able to provide adequate treatment and care. It is therefore important that the nurse learns to recognize the symptoms in order to start (preventative) treatment/nursing interventions. A theoretically-based clinical action plan provides an opportunity to assure the quality both of the preventative nursing as well as that of nursing and treatment in instances of post-operative confusion. The nursing period can be shortened and the patient guaranteed a more secure nursing care. It is our hope that this work can contribute to the better nursing of patients suffering from post-operative confusion. An action plan based on theories forms a stable basis for the suggested measures. A caregiver who works in accordance with a rational theory has a frame of reference on which to base his/her opinions.

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