RISK SCORE OF NURSING PROCEDURES IN ANAESTHESIA CARE

Bejvančická Petra [1,2], Brabcová Iva [1]

[1] University of South Bohemia in České Budějovice, Faculty of Health and Social Sciences, České Budějovice, Czech Republic

[2] University of West Bohemia, Faculty of Health Care Studies, Department of Nursing and Midwifery, Pilsen, Czech Republic

Introduction

The activities performed by a nurse during anaesthesia care are burdened by various degrees of risk. Risk can be defined as the probability of adverse event occurrence with adverse consequences for the patient. Objective of the research was to determine the risk of individual activities performed by a nurse during anaesthesia care.

Methods

DELPHI method was used, followed by quantitative data processing. DELPHI is a method of expert opinions collection through multi-round questioning with controlled feedback between two rounds with possibility of QT and QL data processing. Our panel of experts consisted of 23 experts with experience in nurse anaesthetic profession with overlap into management or education in this field.

The processing methodology was based on recommendation for risk identification and assessment in simple matrices: Risk management - assessment of the severity of adverse events (Pokorná et al., 2019) by combining the probability of the adverse event occurrence and severity of consequence for the patient (table 1).

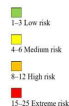| Consequence/severity rating	Occurrence probability rating						
	1	2	3	4	5		
	Rare	Unprobable	Possible	Probable	Almost certain		
5 Catastrophic	5	10	15	20	25		1–3 Low risk
4 High	4	8	12	16	20		4–6 Medium risk
3 Medium	3	6	9	12	15		8–12 High risk
2 Small	2	4	6	8	10		15–25 Extreme risk
1 Unimportant	1	2	3	4	5		

Table 1 Risk score assessment

Results

50 basic activities were determined, divided into 4 areas
1. Preparation of the anesthesiology workplace, devices and equipment
2. Patient care before, at the beginning and during anaesthesia care
3. Patient care during and after anaesthesia care
4. Inspection and monitoring during anaesthesia care

Area	Nurse anaesthetic activities	Median			Standard deviation	
		Risk score (product)	Consequence/ severity rating	Occurrence probability rating	Consequence/ severity rating	Occurrence probability rating
1.8	Preparation/ availability check of equipment to manage complications (e.g. defibrillator)	10	5	2	0,97	0,77
1.4	Preparation and check/test of anaesthesia machine	10	4	2,5	0,97	0,85
1.5	Preparation and check the functionality of the suction machine and suction devices	10	4	2,5	1,15	0,66
1.11	Hygienic-epidemiological principles compliance (disinfection, decontamination, etc.)	9	3	3	0,79	1,18
2.16	Lower airway management with aids	11,25	4,5	2,5	0,84	0,92
2.13	Transfusion preparations application	10	5	2	0,97	0,68
3.7	Perioperative patient temperature management	9	3	3	0,75	0,92
3.10	Cooperation in waking up the patient	9	3	3	1,07	1,02
4.1	Patient clinical monitoring and interpretation	12	4	3	1,02	0,92
4.5	Run of procedure monitoring, blood loss monitoring	12	4	3	0,99	1,09
4.8	Continuous supervision of the patient during the stay in OT	9	4,5	2	1,03	0,93

Table 2 High-risk procedures

Summary

Nurse's activities related to the preparation of devices and equipment, IV administration, airway management, verification and monitoring were evaluated as high-risk procedures (table 2).

Results of the research can help the management of anaesthesia workplaces to pay attention to high-risk activities and support anaesthesia care safety.