Developing Risk Management Policies for Healthcare Providers at Critical Care Units

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Abstract: Background: Risk management policies are essential in the critical care unit to offer the highest quality of care, as well as to the continuing evaluation and enhancement of the care and services given to patients. **Purpose:** assess the common risks at critical care units from health care providers' perspective; develop risk management policies for health care providers at critical care units and validate the developed risk management policies. **Methods:** Methodological descriptive design was utilized. The study was conducted at critical care units of Menoufia university hospital. Sampling: A number of 75 nurses, 27 physicians and 13 supportive personnel were involved. **Instruments:** Two instruments were used (risk assessment questionnaire and validity risk management policies. **Results**: biological risks, medication error related risks; possible risks related hospital error; patients related to risks; risks related to staffings.Levels of Knowledge of nurses, physicians and supportive personnel about common risks at ICU were 10.21 ± 1.50, 9.81 ± 1.62 and 9.77 ± 1.54 consequently. **Conclusion:** There were biological risks, medication errors related risks; possible risks related hospital errors; patients related to risks; risks related to staffing **Recommendations:** Hospital administrators are needed to improve quality of patient care and minimize the proposed risks.

Key words: *Critical Care Units, healthcare providers, policies, risk management.*

Introduction

Managing risk in a healthcare system is challenging. That is because hospital risk managers juggle many responsibilities to keep their organizations safe. Specifically, they are responsible for identifying high-risk areas that could cause harm to patients, visitors, and employees; implementing programs to prevent risks; and managing a reporting process for adverse events that do occur. But one of the most important responsibilities is focusing on improving patient's safety to maintain their health state and to minimize the

financial and adverse risk to the health care system (Godfrey et al., 2022).

In the intensive care unit (ICU), aggressive diagnostic and therapeutic procedures are used for critically ill patients. In normal conditions that patients who are not experiencing complications during hospitalization, mortality rate is more than 25%, while it reaches more than 40% in case of complications. Therefore, patient safety and risk management are very important in the ICU (Hajjar et al., 2021).Patient safety is one of the nation's most pressing health care

challenges, which are in the domain of clinical risk management; in fact, clinical risk management is a principal element of clinical governance (Ghavamabad et al.,2021).

Risk management is essential to the fulfilment of the responsibilities of healthcare professionals to offer the highest quality of care, as well as to the continuing evaluation and enhancement of the care and services given to patients. Changes in the healthcare business have made it more crucial than ever for healthcare workers to be proactive in detecting hazards and implementing the necessary precautions (Søvold et al., 2021)

Therefore, the risk management should include procedures for detecting, analyzing, and evaluating risks, assigning duties, making attempts to mitigate, predict, or decrease them to an acceptable level, and monitoring and assessing progress. Policies serve as a framework for how health care providers make decisions and behaves in response to a problem. (Euteneier, 2020). However, avoidable adverse events, errors and risks associated with health care remain major challenges for patient safety globally. Patients contribute significantly to the burden of harm due to unsafe care. Available evidence suggests that hospitalizations in low and middle-income countries lead to 134 million adverse events annually, contributing to 2.6 million deaths. Estimates indicate that in high-income countries, about 1 in 10 patients is harmed while receiving hospital care Patient safety is pivotal to high-quality health care. (W H O, 2021).

Policy is essential to the nursing profession because it guarantees that nursing services are regulated, monitored, and maintained. It promotes their professional growth and helps them to enhance and ensure the quality of nursing care. To improve patient outcomes and provide critically ill patients with more effective and efficient nursing care, the critical care nursing team must adhere to unit administrative policy (Ervin et al., 2018).

Maintaining a risk-free environment indicates concern and care for staff, whose well-being is as important as any other aspect of competent health care organizations (WHO, 2021).

Building care delivery systems that decrease the frequency and severity of mistakes is one way to improve patient safety. Human mistake is generally acknowledged as the leading source of mishaps not just in human and machine system operations, but also in health care (Rodziewicz et al., 2022).

In other words, besides error detection capabilities, establishing effective risk management depends on institutionalizing the culture of error reporting based on trust. Reducing the probability of clinical risks in hospitals is very important to improve health care quality, having effective hospital staff and patients relationship, patient satisfaction and also to limit complaints on medical errors and nursing care (Homauni et al., 2020).

Risk management policies makes sense. It enhances patient care while decreasing liability claims. In addition, it represents the unique characteristics of health care professionals: concern and care for patients. In addition, it provides the finest quality care at the lowest possible price (Budreviciute et al., 2020).

Significance of the study:

Despite the provider's best efforts, medical error rates remain high with significant disability and death. Preventable medical errors contribute significantly to health care costs, by health professionals working together the cost and injury associated with medical errors will be mitigated

(Rodziewicz et al., 2022). From the experience of the researchers in the clinical field, there are countless harms to patients and healthcare providers that may be neglected by hospital administration or underreported and improperly handled, thus the healthcare organizations are in an urgent need to develop a framework for assessment, analysis and risk assessment and evaluating healthcare risks and proactively handling these risks in a systematic process to avoid further complications to patients and staff.

Purpose of this research:
The purpose of this research was to develop risk management policies for healthcare providers at critical care units through the following objectives:
1. Assess the common risks in the critical care units.
2. Develop risk management policies for critical care unit.
3. Validate the developed risk management policies.

Research Question
What are the most common risks at critical care units?

Subjects and Method

Research Design:
A methodological descriptive design was utilized in the conduction of this study.

Setting:
This study was conducted at five intensive care units (ICU) which are emergency ICU, medical ICU, Chest ICU, anesthesia ICU and pediatric ICU in Menoufia University Hospital at Shebin El-Kom, Menoufia Governorate, Egypt.

Sample:
Two groups of samples were included to achieve study aim.
- **First group:** included all available health care providers in the above-

mentioned settings who agreed to participate in the current study. 115 healthcare providers who were working at critical care units of Menoufia university hospital were chosen to achieve study purpose. It is composed of 75 staff nurses out of 101 staff nurses, the response rate was 74.3% distributed as the followings, 13 nurses from chest ICU, 16 nurses from emergency ICU, 11 nurses from medical ICU, 15 nurses from pediatric ICU and 20 nurses from anesthesia ICU. 27 physicians out of 35 physicians, the response rate was 77.1% distributed as the followings 5 physicians from emergency ICU, 6 physicians from medical ICU, 4 physicians from pediatric ICU, 8 physicians from anesthesia ICU and 4 physicians from chest ICU. 13 supportive personnel (3 equipment maintenance, 5 laboratory technicians, and 5 X-ray technicians).
- **Second group:** consisted of a panel of (28) experts who were divided in two categories academic and non-academic to ascertain face, content and construct validity of the developed policies.

Instruments:
The current study utilized two instruments to achieve study purpose, which are risk assessment questionnaire and validity sheet. Personal characteristics such as age, gender, educational qualification, years of experiences in the hospital and working units were collected too.

Instrument one: Risk assessment questionnaire:
This instrument was developed by the researcher based on related literature review Boyden et al. (2006) and AHRQ (2015) to assess different risks at critical care units. It was collected

from the perspective of nurses, physicians, and supportive personnel. It consisted of 46 items divided into two main dimensions which are types of risks and contributing factors for repeating risks.

Scoring system:

The questionnaire was rated on a three-point Likert scale ranged from 1-3. (3) indicated agree, (2) means disagree and (1) indicated don't know. The total mean scores were summed and mean score < 50 indicate low level of risk, mean score from 50 ≤75 indicated moderate level of risk and mean score > 75 mean high level of risk.

Instrument two: Validity Sheet

Validity sheet was developed by the researchers to test face, content, and construct validity of the suggested risk management policies for health care providers at critical care units. It consisted of 9 statements to be evaluated from experts' perspective by agree or disagree and if was any observation or comments to be modified by the researchers. The researchers set predetermined level of consensus at the start of this study which was 75% agreement for the proposal of risk management policies at critical care units.

Content validity of the developed instruments:

All instruments were given to five experts, three professors in nursing administration, two professors from faculty of nursing, Menoufia university and one professor from Cairo university and two specialized in medical surgical nursing, one professor from faculty of nursing, Menoufia university and one professor from Cairo university to check the adequacy of items that cover each domain under investigation. Based on experts' recommendations, minor

modifications had been made and the tools were finally constructed.

Reliability of the developed instruments:

A test-retest method was used to test reliability for the developed tools Cronbach's alpha showed 0.90 for the first instrument (risks assessment questionnaire) and 0.91 for the second instruments (validity sheet).

Ethical Consideration:

Ethical approval was obtained from Ethical and Research Committee of the Faculty of Nursing, Menoufia University. An agreement was obtained from the selected hospital for data collection. Return of filled questionnaire was considered as an acceptance from participants who met the inclusion criteria to be part of the current study. The data will be collected by the investigator after describing the study aim to all participants. Confidentiality of participants' information was totally assured. Voluntary participation in the study was assured to all participants as well.

Pilot study

A pilot study was conducted before starting the actual data collection for all instruments. The aim of the pilot study was to test the clarity, relevance, applicability of the study instruments and to determine obstacles that may be encountered during data collection. It also helped to estimate the time required to fill in the questionnaires. The pilot study was conducted on 12 health care providers who represented 10% of the total sample. Based on the findings of the pilot study, a minor modification was done. The sample of the pilot study was excluded from the study sample. The time needed to complete risk assessment questionnaire ranged from 20-35 minutes.

Procedure:

A letter was submitted from the Dean of the Faculty of Nursing to the directors of previously mentioned settings explaining the purpose and methods of data collection. Data was collected using self-administered questionnaires. The questionnaires were distributed, completed, and collected from all participant healthcare providers. The purpose of this research and the instructions to fill in the questionnaire were provided to all healthcare providers in a form of cover page of the questionnaires. Healthcare providers completed the questionnaires during working hours. Data collection procedures were carried out through the following phases. (Assessment phase).

The researchers explained the purposes, nature, and significance of the study for each nurse, physician and supportive personnel during their break time. The questionnaires were given to them during morning and afternoon shifts. The questionnaires were collected on the same day or next day according to units' workloads. Data was collected over three months started from the beginning of January to the end of March 2018.

Then, the level and importance of health care risks, their underlying causes were determined and current measures in place were identified. Afterwards, understanding the underlying causes, scope, and potential severity was done. A risk management policy was developed. This phase took about two months started from the beginning of April to the end of May 2018 (Analysis and evaluation phase).

Based on the collected data and after reviewing the related literature for the standardized policy, the researcher proposed risk management policies and procedures for health care providers suitable for critical care units, Menoufia University. The proposal of the risk management policy includes vision, mission, and objectives of the committee. Each developed policy contained its purpose, area of application, its procedures, responsible persons for its implementation, follow up and policy dissemination. This phase took about four months started from the beginning of July to the end of September 2018 (Development phase).

The participant experts were as follows 12 professors and assistant professors of nursing administration, faculty of nursing, from Menoufia University, Cairo University and El Minia university. The sample contained 5 professors and assistant professors of medical surgical nursing, from Menoufia university and Ain shams university and 3 professors from faculty of medicine Menoufia university and Cairo university, and 8 nonacademic personnel, from Menoufia and Cairo university hospitals 4 nursing department managers and their assistant, 1 medical manager of Menoufia university hospital, 1 occupational and health safety manager from Menoufia university hospital, 2 from quality team and infection control team Menoufia university hospital to ascertain face, content and construct validity of the developed policies and check the adequacy of items in each policy. Based on experts' recommendations, the needed modifications were done and the developed policies was finally constructed. This phase started from the beginning of April to the end of June 2022 (Validation phase).

Statistical analysis

The collected data was organized, tabulated and statistically analyzed using SPSS software (Statistical Package for the Social Sciences, (SPSS) version 20. For quantitative data, the range, mean and standard

deviation is described in the form of frequency, percentage or proportion of each category, comparison between two groups and more was done using Chi-square test ($\chi 2$), Monte Carlo correction, Correction for chi-square when more than 20 % of the cell have expected counts less than 5. For comparison between more than two means of parametric data, F value of ANOVA test was calculated. Significance was adopted at p-value <0.05 for interpretation of results of tests of significance.

Results

Table (1) demonstrates characteristics of the study sample, as noted from the table, most nurses (72%) were females while physicians and supportive personnel (74.1%) and (61.5%) were males. Regarding age, the majority of physicians (96.3%), and around two thirds of nurses (57.3%) age were between 20 – < 30 years. While supportive personnel (53.8%) age from 30 – < 40. Regarding the years of experience, the highest percentage of physicians (92.6%) had 1 to < 5 years of experience for nurses, 41.3% and 76.5% of supportive personnel had 10 to < 25 years of experience. Regarding educational level. The majority of physicians (88.9%) had baccalaureate degree of medicine and surgery, while in nurses more than half of them had associate degree and the minority of all health care providers (3.5%) had postgraduates. Regarding the unit's name, the highest percentage of studied healthcare providers (25.2%)

worked at Anesthesia ICU followed by Emergency ICU (22.6%), while the lowest percentage (14.8%) worked at Chest ICU.

Table (2) reveals that the highest mean score (26.07 ± 3.60) (24.48 ± 5.0) (18.69 ± 6.26) of risks assessment was reported by nurses, physicians and finally supportive personnel related to possible risks related to hospital while the lowest total mean score (10.07 ± 1.53) related to biological risks. Also, there was statistically significant difference for all dimension except biological risk.

Figure (1) reveals that high level of risks assessment instrument was reported by nurses followed by physician and finally supportive personnel (73.3%,55.6% and 53.8% respectively).

Table (3) indicates that majority of nurses (80.0%), high percentage of physicians (66.7.%) and 61.5% of supportive personnel reported high level of perspectives in relation to risk assessment.

Table (4) indicates that the highest mean score (30.71 ± 2.89) of perceptiveness towards contributing factors for risk according to nurses, physicians (28.48 ± 4.53) and finally supportive personnel (24.46± 6.45). Therefore, there were statistically significant difference among (health care providers at critical care units).

Table (5) shows frequency distribution of experts according to their opinions about validity of contents. More than 90.0% of them agreed of the validity of contents.

Table (1): Percentage distribution of studied nurses according to their characteristics (n = 115).

Q	characteristics	Nurses (n = 75)		Physicians (n = 27)		Supportive Personnel (n = 13)		Total (n = 115)	
		N.	%	N.	%	N.	%	N.	%
1	**Gender**								
	Male	3	4.0	20	74.1	8	61.5	31	27.0
	Female	72	96.0	7	25.9	5	38.5	84	73.0
2	**Age**								
	From 20 –< 30	43	57.3	26	96.3	3	23.1	72	62.6
	From 30 – < 40	24	32.0	1	3.7	7	53.8	32	27.8
	From 40 – < 50	8	10.7	0	0.0	3	23.1	11	9.6
3	**Years of experience**								
	1 to < 5 year	20	26.7	25	92.6	1	7.7	46	40.0
	5 years to < 10 years	24	32.0	2	7.4	2	15.4	28	24.3
	10 years to < 25 years	31	41.3	0	0.0	10	76.9	41	35.7
4	**Educational Level**								
	Postgraduates	1	1.3	3	11.1	0	0.0	4	3.5
	Baccalaureate	13	17.3	24	88.9	0	0.0	37	32.2
	Technician	0	0.0	0	0.0	13	100.0	13	100.0
	Associate degree	50	66.7	0	0.0	0	0.0	50	43.4
	Diploma Nurse	11	14.7	0	0.0	0	0.0	11	9.6
5	**Unit name**								
	Emergency ICU	16	21.3	5	18.5	5	38.5	26	22.6
	Anesthesia ICU	20	26.7	8	29.6	1	7.7	29	25.2
	Medical ICU	11	14.7	6	22.2	7	53.8	24	20.9
	Pediatric ICU	15	20.0	4	14.8	0	0.0	19	16.5
	Chest ICU	13	17.3	4	14.8	0	0.0	17	14.8

The studied health care providers at critical care units

Table (2): **Mean and Standard Deviation of Perspectives of Health Care Providers about Risk Assessment Dimensions at Critical Care Units (n=115).**

Risk level at critical care units	Nurses (n = 75)		Physicians (n = 27)		Supportive Personnel (n = 13)		Total (n = 115)		Test of sig.	P
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Biological risks	10.21 ± 1.50		9.81 ± 1.62		9.77 ± 1.54		10.07 ± 1.53		F=0.953[*]	0.389
Risks related to medication errors	15.21 ± 2.66		13.93 ± 2.42		8.85 ± 3.08		14.19 ± 3.30		F=32.092[*]	<0.001[*]
Risks related to patients	16.05 ± 1.76		15.07 ± 2.04		12.69 ± 2.84		15.44 ± 2.23		F=16.755[*]	<0.001[*]
Possible risks related to hospital	26.07 ± 3.60		24.48 ± 5.0		18.69 ± 6.26		24.86 ± 4.86		F=16.341[*]	<0.001[*]
Risks related to staffing:	21.32 ± 2.80		19.81 ± 3.77		14.62 ± 5.14		20.21 ± 3.94		F=22.247[*]	<0.001[*]
Overall risk types at critical care units	119.6±9.76		111.6±16.24		89.08±18.57		114.3±15.84		F=32.762[*]	<0.001[*]

Table (3): Distribution of Health Care Providers According to Their Level of Perceptiveness of risk management (n=115).

Risk level at critical care units	The studied health care providers at critical care units								Test of sig.	P
	Nurses (n = 75)		Physicians (n = 27)		Supportive Personnel (n = 13)		Total (n = 115)			
	N.	%	N.	%	N.	%	N.	%		
Biological risks										
Low	0	0.0	1	3.7	0	0.0	1	0.9	χ^2=6.350	^{MC}p= 0.151
Moderate	45	60.0	20	74.1	10	76.9	75	65.2		
High	30	40.0	6	22.2	3	23.1	39	33.9		
Risks related to medication errors										
Low	6	8.0	3	11.1	10	76.9	19	16.5	χ^2= 36.121*	<0.001*
Moderate	30	40.0	18	66.7	3	23.1	51	44.3		
High	39	52.0	6	22.2	0	0.0	45	39.1		
Risks related to patients										
Low	3	4.0	2	7.4	5	38.5	10	8.7	χ^2= 22.573*	<0.001*
Moderate	13	17.3	8	29.6	6	46.2	27	23.5		
High	59	78.7	17	63.0	2	15.4	78	67.8		
Possible risks related to hospital										
Low	6	8.0	5	18.5	7	53.8	18	15.7	χ^2= 17.098*	<0.001*
Moderate	23	30.7	10	37.0	4	30.8	37	32.2		
High	46	61.3	12	44.4	2	15.4	60	52.2		
Risks related to staffing:										
Low	2	2.7	3	11.1	9	69.2	14	12.2	χ^2= 30.890*	<0.001*
Moderate	27	36.0	10	37.0	2	15.4	39	33.9		
High	46	61.3	14	51.9	2	15.4	62	53.9		
Overall risk level at critical care units										
Low	2	2.7	4	14.8	8	61.5	14	12.2	χ^2= 26.274*	<0.001*
Moderate	13	17.3	5	185	3	30.8	21	18.3		
High	60	80.0	18	66.7	2	15.4	80.	69.5		

SD: **Standard deviation**   MC: **Monte Carlo** χ^2: **Chi square test**   *: **Statistically significant at p ≤ 0.05**

Table (4): Comparison between levels of health care providers perceptiveness regarding contributing factors for repeated risks at critical care units (n= 115).

Contributing factors for repeating risks	The studied health care providers at critical care units								Test of sig.	P
	Nurses (n = 75)		Physicians (n = 27)		Supportive Personnel (n = 13)		Total (n = 115)			
	N.	%	N.	%	N.	%	N.	%		
Low	0	.0	4	14.8	6	46.2	10	8.7	χ^2= 25.823*	<0.001*
Moderate	31	41.3	11	40.7	4	30.8	46	40.0		
High	44	58.7	12	44.4	3	23.1	59	58.6		
Mean ± SD.	30.71 ± 2.89		28.48 ± 4.53		24.46± 6.45		29.48 ± 4.31		F=15.860*	<0.001*

Figure (1) Distribution of studied health care providers according to total risk& contributing factors assessment levels at critical care units (n=115).
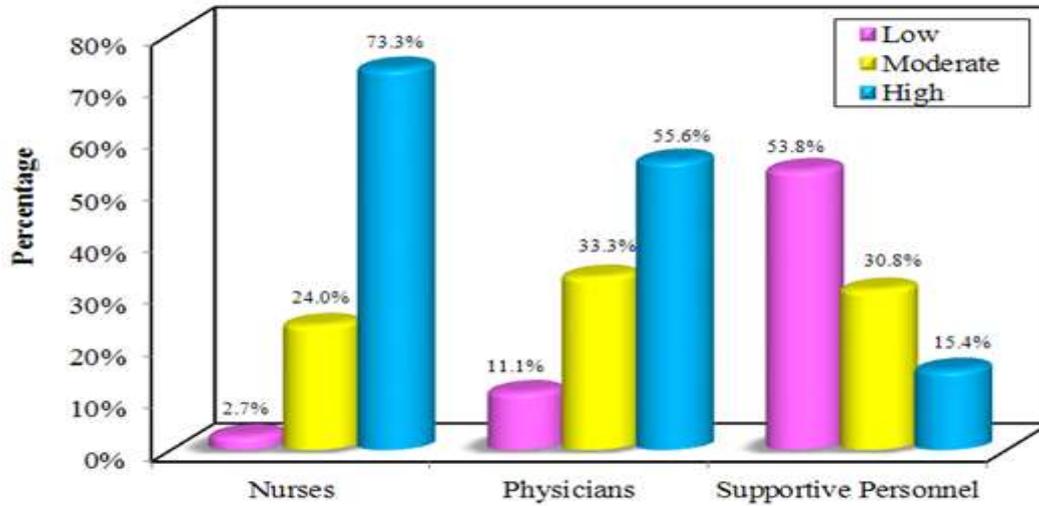
Table (5): Frequency distribution of experts according to their opinions about validity of contents.

Q	Items	Agree		Not agree		Need modification	
		N.	%	N.	%	N.	%
1	The suggested policies looks like to reveal health and risk management.	28	100.0	0	0.0	0	0.0
2	The items of the suggested policies are applicable.	28	100.0	0	0.0	0	0.0
3	The items of the suggested policies are relevant to its title.	27	96.4	0	0.0	1	3.6
4	The items statements of the suggested policies are clear.	26	92.9	0	0.0	2	7.1
5	The items of the suggested policies are understood.	28	100.0	0	0.0	0	0.0
6	The items of the suggested policies and procedures are specific, related to the concept of health and risk management.	26	92.9	0	0.0	2	7.1
7	The items of the suggested policies are designed in a logical consequence.	26	92.9	0	0.0	2	7.1
8	All policies are applicable.	28	100.0	0	0.0	0	0.0
9	The items of the suggested risk management committee of the intensive care unit are designed in a logical sequence.	26	92.9	0	0.0	2	7.1
	Total	**27**	**96.4**	**0**	**0.0**	**1**	**3.6**

DISCUSSION

Risk management is used to increase quality and safety of patient care and includes several principles and guidelines, among which are: the creation of a safety culture; the systematic and structured execution of risk management processes; integration with all care processes; coordination with the organizational processes of health services; the best available evidence; transparency, inclusion, accountability, awareness, and ability to react to changes (Nóbrega, et al. , 2021).

Comparison of risk assessment types reveals that the highest mean score of risks assessment was reported by nurses, physicians and supportive personnel. The highest possible risks were related to hospital errors while the lowest risks were related to biological risks. This result was accordance with Zakaria et al., (2019), who found that majority of the nurses reported more risks then physicians. Also, it agreed with Farokhzadian et al., (2020), who found that risk assessment was more reported and mentioned by nurses. This result was not in same line with Abd El Fatah et al, 2019 who found positive relation between the risk program and risk management

Also, there is was statistically significant difference for all dimension except biological risk. This may be due to most of patients admitted to ICU develop MARSA and Pneumonia after 2 to 3 days from admission to ICU as a hospital acquired infection. This result was disagreed with Sacadura-Leitea et al., (2018) who mentioned that a higher risk of infection in ICU was Meningitis, influenza, and other respiratory infections spread through contact of infected respiratory secretions.

Regarding to assessment of studied health care providers according to total risks & contributing factors levels at critical care units. It was indicated that the majority of nurses (73.3%) and also a high percentage of physicians (55.6%) reported high risk perceptiveness level while more than half (53.8%) of supportive personnel reported low risk level. From the researcher's point of view, it may be due to physicians and nurses were more in contact with patients and often have different perceptions of what patients' needs, and different goals for patient care than supportive personnel who less time contact with the patients. Also, this result was in agreement with Adeleke, et al (2018) in their study entitled the influence of organizational external factors on construction risk management among Nigerian construction companies. and Fumagalli et al., (2020) who studied Also, it was consistent with Farokhzadian et al., 2018 in their study entitled clinical risk score to predict in-hospital mortality in COVID-19 patients: a retrospective cohort study

Regarding the contributing factors assessment, it was indicated that the highest mean score (30.71 ± 2.89) of contributing factors assessment was reported by nurses followed by physicians (28.48 ± 4.53) and finally supportive personnel (24.46± 6.45). This result agreed with Pavlovic & Veseliovic (2018) in their study entitled repetition as a risk factor for the development of musculoskeletal disorders Also, it was in agreement with Farag et al., (2020) who studied Predictors of nursing home nurses' willingness to report medication near-misses

Regarding to experts' opinionsof content validity, the results showed that there was total agreement among (28) experts in relation to proposed risk management policies for health care providers at critical care units

except some items need modification. This result was in agreement with Zayed, (2017), who mentioned there was agreement among academic and non-academic experts with minimal modifications. Also, this result was in agreement with Sharma et al (2019), who mentioned that more than half of the expertise agreed with some modifications. Furthermore, this result was in agreement with Leithy, and Ashour (2021)in a study entitled clinical risk management in healthcare organization as perceived by staff nurses.

Conclusion:

In the light of the current study's findings, it could be concluded that the common risks reported by health care providers at critical care units are air born infectious disease followed by blood borne infectious disease among biological risks, lack of fixed administration medication policy in the hospital is the most common among risks related to medication error. Moreover, the most common contributing factors for repeating risks, include that: system does not specify a suitable plan for identifying and evaluating risks as reported by all healthcare providers. Likewise, the healthcare providers assessed critical care unit as having high level of total risk, the highest mean score of risk assessment was reported by nurses followed by physicians and finally supportive personnel. Moreover, both academic and non-academic experts agreed about proposed risk management policies for healthcare providers at critical care unit.

Recommendations:

- The suggested risk management policies should be used at critical care unit Menoufia university the adoption of the proposed risk management policies by hospital authority is a must

- Hospitals should establish of risk management committee and make coordination between infection control committee, quality assurance committee.
- Further research should be done concentrated on risk management culture, assessment, adherence to risk management policies and procedures and effectiveness of risk management committee

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