Brief Communication

Designing an instructional guideline for common medical errors in gynecology and obstetrics

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Abstract

The aim of this qualitative study was to determine the most important medical errors made by gynecology residents.
This study used a Delphi technique in three rounds. First, a list of common errors was prepared using a questionnaire, then the most important errors were prioritized and finally, the managerial and training procedures were determined for errors.
In this study, 45 common errors were detected. The most common errors were inadequate surgical homeostasis, excessive use of magnesium sulfate, managerial error of post-operative infections; undiagnosed pulmonary embolism and incorrect prescription of heparin. Specialists and residents stated that designing an instructional guideline was the best method to manage all kinds of errors.
Different regulatory and training procedures should be applied to prevent and control errors. An effective method for professional practitioners is designing instructional guidelines. In this study, an instructional manual was developed for the most frequent errors observed in obstetrics and gynecology.

Key words: Medical error, Delphi Technique, Obstetrics, Gynecology

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Introduction

Medical errors are considered as a major health problem in worldwide that annually cause mortality and physical and mental dysfunctions in patients and other members of the family and consequently in the society. Numerous studies have indicated poor quality of healthcare in different wards of hospitals (1, 2). Moreover, the number of medical errors is increasing. In the US, $180 billion dollars and in the UK, £10 billion are spent on medical errors (3). Another study has shown that in the US, medical errors kill 98000 people annually (4).

Studies have reported that 20-30% of medical errors occur as a result of incorrect use of medical equipment (5). Previous studies have confirmed the necessity of recognizing the medical errors and the relevant training.

In their study, Delfan et al. argue that 88.5% of working physicians have accepted the necessity of training to prevent medical errors (6).

With regard to the significance of medical errors in the mortality of patients as well as the high costs they impose on the healthcare system, it is necessary to identify them and take proper measures by implementing an appropriate plan and using useful instruments in order to control them. Hence, this study was carried out to determine the most important medical errors that gynecology residents make on patients during diagnostic or therapeutical procedures and to analyze how to deal with them.

Methods

This qualitative study was performed based on Delphi technique. The participants included 10 academic member gynecologists, 21 practice nurses, 24 midwives and 12 operation room technicians who were working in the clinical wards of delivery, postnatal, elective and operation rooms at Besat hospital in Sanandaj in 2012. These participants were selected especially to increase the reliability and to identify the errors they were most probable to observe.

Data were collected in three rounds. In the first round, using a checklist all the participants were required to mention at least 5 common errors in obstetrics and gynecology. Also, a list of common errors was made using the information from the files in gynecology wards sent to mortality committee, direct observations of the researcher and her personal experiences. In the second round, the list of different common errors obtained was classified by Delphi method and submitted to gynecologists individually to prioritize the most important errors in each category. Then, the opinions were summed up by the researcher and sent back to the gynecologists to reprioritize. This was repeated three times to obtain the final list. In the third round, based on the list of common errors acquired and the information obtained in the first round, the specialists were asked to determine the managerial and instructional techniques for each error.

Having summarized the views, the inventory of management methods for each medical error was determined.

To enhance the trustworthiness of the study, the number of participants was increased as much as possible. Further, in this study the gynecologists and midwives that had sufficient expertise about the topic were selected. Other criteria to increase the reliability of the study included feedback, coming to consensus and group discussions.

Results

In this study, 45 common errors in 5 categories were determined by the participants; 9 surgical errors, 17 manage errors, 9 diagnostic errors, 7 pharmaceutical errors and 3 therapeutic errors. Having prioritized the errors made by gynecologists, the most important common errors included surgical error of inadequate hemostasis, therapeutic error of excessive use of magnesium sulfate, managerial error of postoperative infection, diagnostic error of non-diagnosis of pulmonary embolism and pharmaceutical error of incorrect prescription of heparin, respectively (Table1). The specialists and residents under study introduced preparation of instructional guidelines as the best and first management method for all the errors (Table 2).

Discussion

Medical profession has not been and is not flawless, but it is urgent that physicians minimize the incidence of errors. Moreover, it is necessary to cite medical errors for the sake of the patients' health as well as gaining experience (7).

In this study, medical errors associated with gynecological diseases were classified into five categories: managerial, surgical, therapeutic, diagnostic and pharmaceutical. Surgical error of inadequate hemostasis, therapeutic error of excessive use of magnesium sulfate, managerial error of postoperative infection, diagnostic error of non-diagnosis of pulmonary embolism and pharmaceutical error of incorrect prescription of heparin were the first priorities in the view of the gynecologists and residents. These findings indicate the possible incidence of medical errors in women hospitalized in different maternity wards.

Table 1. Inventory of common errors and their priority determined by the participants

Class	Type of error	Priority	Class	Type of error	Priority
Surgical	Inadequate homeostasis	1	**Diagnostic**	non-diagnosis of pulmonary embolism (ignoring the symptoms)	1
	Surgery on wrong position	2		False interpretation of NST	2
	Surgery on wrong patient	3		Failure to recognize the urgency of the patient	3
	Inadequate IV line skills	4		Lack of attention to soft uterus	4
	Inadequate skills for dressing the infectious ulcers	5		Excessive use of ultrasonography	5
	Inadequate skill of controlling the cervical rupture	6		False interpretation of OCT	6
	Leaving surgical instruments inside the patient's body (vaginal tampon)			False interpretation of BPP	
	Inadequate skill for drain care			False interpretation of CT	
	Incorrect use of vacuum and surgical instruments during delivery			Human error while analyzing visual samples like Pap smear	
Management	Postoperative infection	1	**Pharmaceutical**	Incorrect prescription of heparin	1
	Lack of attention to patient's urine output	2		Prescribing incorrect dose of medication	2
	Lack of control over filing principles	3		Disregarding drug labels and guidelines	3
	Lack of physician and patient communication	4		Serum prescription with incompatible drug type (phenytoin+→OW has sediment)	4
	Lack of timely notification of patient's status to on-call personnel	5		Prescription of mefenamic acid capsule in gastritis	5
	Non-documentation of orders	6		Wrong prescription of syntocinon for patients with hypotension	
	Lack of registration of date and time of the given orders			Wrong prescription of methergine for HTN patient	
	Lack of attention to registration and documentation of legal issues (patient consent)		**Therapeutic**	Excessive use of magnesium sulfate	1
	Giving false information about patient to on-call personnel			False prescription of betamethasone	2
	Lack of attention to headache after spinal anesthesia			False prescription of proleten	3
	Writing primary diagnosis of patients				
	Writing RPO				
	Delay in visit				
	Lack of daily visit				
	Unnecessary prescription of antibiotics				

Conclusion

Since medical error is an inseparable part of the medical profession (8, 9) and safety of mothers and children is one of the most important concerns in gynecology (10) it is necessary to employ educational and mediatory methods in order to prevent and control error. Medical errors should not be considered as part and parcel of medical practice which we can do nothing about them. They must be regarded as preventable and unacceptable .What makes medical errors unacceptable is their reoccurrence (11). An acceptable and efficient method for the individuals working in this profession is designing an instructional guideline (12), which is formulated for the common and significant errors made in maternity wards.

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Table2. Management and training methods for common errors from the viewpoint of gynecologists in the third round

Class	Error type	Error management based on priority
Surgical	Insufficient hemostasis	1. preparation of instructional guidelines 2. mandating the study of guidelines 3. giving a test about the guidelines
	Surgery on wrong position	1. preparation of instructional guidelines
	Surgery on wrong patient	1. preparation of instructional guidelines 2. mandating the study of guidelines 3. giving a test about the guidelines 4. holding a conference on the error
Therapeutic	Excessive use of magnesium sulfate	1. preparation of instructional guidelines 2. holding a conference on the error
Managerial	Incidence of post-operative infection	1. preparation of instructional guidelines 2. mandating the study of guidelines 3. giving a test about the guidelines 4. holding a conference on the error by the resident
	Lack of attention to patient's urine output	1. preparation of instructional guidelines 2. mandating the study of guidelines 3. holding a conference on the error by the resident
Diagnostic	Non-diagnosis of pulmonary embolism and lack of attention to symptoms	1. preparation of instructional guidelines 2. mandating the study of guidelines 3. giving a test about the guidelines 4. holding a conference on the error by the resident
	False interpretation of non-stress test (NST)	
Pharmaceutical	Incorrect prescription of heparin	

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