

The role of nurses in medication management in the Czech Republic: A narrative literature review

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Abstract

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Background: Medication management is considered to be highly important area of health care. It is ensured by different health care professionals, unfortunately their competences are not always clear.

Aim: The aim of this study is to describe role and formal competences of nurses in medication management in the Czech Republic.

Methods: Literature for this review was identified using electronic searches of databases Medline, ProQuest Central, EBSCOhost, ScienceDirect and Web of Science, hand searches of legal norms and hand searches of professional Czech and Slovak journals.

Results: Medication management is highly regulated area covered by many legal norms having different levels of authority. Although many of the activities related to medication management are described in details, certain activities remain poorly defined, everyday practice can differ, and certain health care professionals are exceeding their competencies related to medication management.

Conclusion: To ensure adequate quality of care, formal competencies related to medication management should be effectively matched with responsibilities and duties in real practice.

Keywords: medication administration, medication competence, nurses role

Introduction

Nurses, in general, spend a large part of their working hours on activities related to medication management. They themselves consider this area to be a highly important issue (Smeulers et al., 2014) although nurses (Morrison-Griffiths et al., 2002) as well as nursing students (Honey et al., 2008) do not consider their education to be always fully relevant to the current practice.

The topic of medicines management seems to be also closely connected to the quality of health care services as medication errors are described in the literature as the most common source of adverse events in health care (Ďurišová et al., 2005; Michaels et al., 2010; Berdot et al., 2013). Although it is emphasized the whole system approach is required to reduced them (Wright, 2013), several studies focus on teaching and learning methods and there is agreement that medication management should be strengthened during the nursing education (Manias et al., 2002; Štrbová et al., 2014) as well as through continuous professional development (Ndosi et al., 2009; Simonsen et al., 2014).

The extent of activities related to medication management can vary across different types of units (Sulosaari, 2010; Wright, 2013). In the Czech Republic medication administration is ensured by different healthcare professionals that need to cooperate. In an attempt to ensure as high level of provided care as possible, the performance of many specific activities is regulated on the national level as typical for any regulated profession (ICN, 2003, p. 9-16) but some studies indicate real practice can vary (Bártlová, 2007; Mikšová et al., 2014).

Aim

The aim of this study is to describe role and formal competences of nurses in medication management in the Czech Republic.

Methods

Literature for this review was identified using electronic searches (in November 2015) of databases Medline, ProQuest Central, EBSCOhost, ScienceDirect and Web of Science limited to articles published in Czech, Slovak and English language. Combinations of the following key word phrases were used: *nursing* OR *nurse* AND *pharmacology competence* OR *medication competence*. A total of 372 sources published between 1979 and 2015 were reviewed using abstracts. Only full text articles related to graduate nurse competencies in medication management in nonspecific nursing context were included (5 articles). Hand searches of legal norms, articles from reference collections, government and professional healthcare society's websites; and hand search of professional Czech and Slovak nursing journals was also performed between November 2015 and February 2016. As a result 10 full text articles and 10 legal norms were included in review.

Results

Medication management is considered by many authors (Sulosaari, 2010; Wright, 2013) to be a very complex issue within the provision of health care. It is defined as multistep process (Vogenberg, 2011) that include phases of prescribing, transcribing, dispensing, administering and monitoring (Sulosaari, 2010). The whole process is ensured by many different types of health care professionals (Vogenberg, 2011) with sometime different and sometime overlapping role (Mikšová et al. 2014).

In the Czech Republic the main legal norm regulating medicine management is *Act no. 378/2007 Coll. on pharmaceuticals, as amended by later legal regulations*. A medicine is defined there as "a substance or combination of substances presented as having therapeutic or preventative properties" or which can be used "for the purpose of restoration, adjustment or influencing physiologic functions through its pharmacological, immunological or metabolic effect, or for the purpose of making a medical diagnosis". The origin of this substance can be human, animal, plant-based, or chemical.

The Act further specifies the basic conditions for the use of medicinal products within health care, including the conditions for qualification recognition of workers handling these products. The conditions for handling medical products, which are concurrently controlled drugs, are further specified in Act no. 167/1998 Coll. on addictive substances. Preconditions for handling medicinal products and controlled drugs include: age older than 18 years, legal capacity, moral integrity, good health status and professional competence according to Act no. 95/2004 Coll. and Act no. 96/2004 Coll. Addition to conditions named above the medical products that are not controlled drugs can be also handled by persons younger 18 years during their education or orientation period when working under supervision.

Medication process starts with identifying a patient's need for medication and prescription (Sulosaari, 2010). According to the Czech law medicines are prescribed only by physicians. The prescribing procedure and the information necessary on a medical prescription are specified by *Decree no. 54/2008 Coll. on prescriptions of medical products*, as well as information necessary in a medical prescription and the rules for using a medical prescription. The procedure for prescribing medical products during a hospital stay is partly detailed in Decree no. 84/2008 Coll., which covers correct practice in pharmacies, specific conditions for handling medication in pharmacies, health care facilities and other providers, and facilities offering medicinal products. Moreover, each health care facility usually has its own internal guidelines on this matter.

Competencies to perform specific activities related to the administration of already prescribed medication are related mainly to non-medical healthcare workers. Their formal competencies are detailed mainly in *Act no. 96/2004 Coll. on non-medical health care professions* and *Decree no. 55/2011 Coll. on activities of health care workers*. These legal norms define competencies of nurses (tab. 1.) and other non-medical health care workers (tab. 2.).

Tab. 1. Formal competencies of a nurse in medicines administration

Competencies in medicines administration	General nurse *	Intensive care nurse **	Perioperative care nurse **	Pediatric nurse **	ICU pediatric nurse **	Community nurse **	Internal medicine nurse **	Surgical nurse **	Psychiatric nurse **	Clinical perfusiology nurse **
IV infusion or IV injection administration in adults and children above 3 year of age	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
IV infusion or IV injection administration in children under 3 year of age				✓	✓					
IM and SC injection administration	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Enteral administration	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Administration by inhalation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Tab. 1. – continued

Competencies in medicines administration	General nurse *	Intensive care nurse **	Perioperative care nurse **	Pediatric nurse **	ICU pediatric nurse **	Community nurse **	Internal medicine nurse **	Surgical nurse **	Psychiatric nurse **	Clinical perfusiology nurse **
Epidural administration	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Topical and transdermal administration	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Receiving, checking, storing and supplying controlled drugs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Receiving, checking, storing and supplying medication	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Legend: * – professional qualification; ** – specialized qualification

Compiled according to Act no. 96/2004 Coll. on non-medical health care professions and Decree no. 55/2011 Coll. on activities of health care workers and Government regulation no. 31/2010 Coll. on the fields of specialist education.

Except nurses there are also other non-medical health care professions involved in medication management although the issue of medication administration by non-medical health care professionals is relevant mainly to general care nurses, midwives, and health care paramedics. These professions gain their professional qualification through a study program lasting at least three years (Decree no. 39/2005 Coll.). Further, they can gain a specialist qualification during subsequent specialist education.

Tab. 2. Formal competencies of other “non-medical” health care professionals and workers in medicines administration

Competencies in medicines administration	Midwife*	Intensive care midwife**	Perioperative care midwife**	Community care midwife**	Health care rescuer*	Health care rescuer – dispatcher**	Health care rescuer in urgent medicine**	Health care assistant*	Care giver*	Auxiliary staff*
IV infusion or IV injection administration in adults and children above 3 year of age	✓	✓	✓	✓	✓	✓	✓			
IV infusion or IV injection administration in children under 3 year of age					✓	✓	✓			
IM injection administration in adults and children above 3 year of age	✓	✓	✓	✓	✓	✓	✓	✓***		
IM injection administration in adults and children above 3 year of age	✓	✓	✓	✓	✓	✓	✓			
SC injection administration	✓	✓	✓	✓	✓	✓	✓	✓***		
Enteral administration	✓	✓	✓	✓	✓	✓	✓	✓***		
Administration by inhalation	✓	✓	✓	✓	✓	✓	✓	✓***		
Epidural administration	✓	✓	✓	✓	✓	✓	✓			
Topical and transdermal administration	✓	✓	✓	✓	✓	✓	✓	✓***		
Receiving, checking, storing and supplying controlled drugs	✓	✓	✓	✓	✓	✓	✓	✓***		
Receiving, checking, storing and supplying medication	✓	✓	✓	✓	✓	✓	✓	✓***	✓	✓

Legend: * – professional qualification; ** – specialized qualification; *** – under professional supervision of nurse, midwife or medical doctor

Compiled according to Act no. 96/2004 Coll. on non-medical health care professions and Decree no. 55/2011 Coll. on activities of health care workers and Government regulation no. 31/2010 Coll. on the fields of specialist education.

Even though many of the competencies required of Czech health care professionals and workers are defined by legislation in details, everyday practice in health care facilities can differ dramatically from the letter of these laws. Several studies have reported that Czech nurses and other “non-medical” health care professionals, in certain situations, significantly exceed their competencies. On the other hand, nurses also participate in less demanding activities, which could be delegated to less qualified staff, thus reducing the need for less qualified staff to perform activities best handled by nurses, including the administration of medication (Bártlová, 2007; Mikšová et al., 2014). The situation seems to be rather confusing and is complicated by the fact that nurses are not sure which competencies belong to nursing, which should be performed by other professions, and which competencies can be shared (Bártlová, 2007).

The process of medicine management is viewed as a multifaceted task (Tang et al., 2007; Sung et al., 2008) and highly complex (Wright, 2013) that forms important part of nursing work. Some authors indicate that nurses spend up to 40% of their working hours on activities related to administration of medications (Armitage et al., 2003). However there is undergoing debate in the Czech Republic as to what areas are actually included in the medicine management process. The literature lists at least 11 areas closely related to medication administration, where nurse knowledge is considered to be essential for error-free administration of medication. According to Sulosaari (2010, p. 464-476) nurse medication competence has theoretical, practical and decision-making part and includes following areas: knowledge of anatomy and physiology, knowledge of pharmacology, communication skills, the ability to cooperate interdisciplinary, the ability to use different information sources, mathematical skills, knowledge of the particular procedure for medication administration, the ability to educate patients effectively, the ability to assess and evaluate a patient’s condition correctly, efficient documentation, the ability to promote medication safety.

Unfortunately there is another controversy. Some of the above mentioned areas are traditionally understood in the Czech Republic in a wider context (not only in relation to administering medication); and formal competency for their performance is defined separately in existing law (tab. 3.).

Tab. 3. Other competencies of health care workers related to „medication competence”

Competencies	General nurse	Midwife	Health care rescuer	Health care assistant	Care giver
The ability to educate patients effectively					
Education of patients and others	✓	✓			
Provision of information to patients	✓	✓	✓		
The ability to assess and evaluate a patient’s condition correctly					
Monitoring and basic evaluation of vital functions	✓	✓	✓	✓ **	To measure body temperature *
Testing of biological material obtained non-invasively and capillary blood	✓	✓	✓	✓ *	
Collection of biological material for testing	✓	✓	✓	✓	
Basic evaluation of tests results	✓	✓	✓		
Efficient documentation					
Keeping healthcare records	✓	✓	✓		
The ability to promote medication safety					
Evaluation of risk factors	✓	✓			

Legend: * – under professional supervision; ** – under professional supervision as indicated by a general care nurse or midwife

Compiled according to Act no. 96/2004 Coll. on non-medical health care professions and Decree no. 55/2011 Coll. on activities of health care workers.

This has been creating a rather confusing situation as some formal competencies to perform certain activities contradict each other. It means some health care workers have the competence to administer certain medications but they do not have competence to perform all activities related to this process. An example can be that of a health care assistant, who has the competence to administer medication orally, by IM or SC injection, but they only have the competence to measure vital functions (which is necessary prior or after administering certain medications) based on the decision of a general nurse or midwife and while under their professional supervision. Similarly, a health care assistant does not have the competence to educate a patient about the administered medication, but patient education and active participation in process of medication management is considered to be one of the ways to prevent medication errors (Brabcová et al., 2014; McLeod et al., 2015). Patient education is also aligned with European Parliament Directives 2005/36/ES, as amended by 2013/55/EU. In addition, a health care assistant has the competence to work with health care records but not to be in charge of record keeping related to nursing care, etc.

It seems that although medication administration is currently ensured by different non-medical healthcare professionals, formal competencies to perform activities related to medication management in full extent have nurses and midwives.

Conclusion

The reality of medication management in the Czech Republic has not been fully described yet, however it seems that in some situations, certain health care professionals, and workers are exceeding their competencies; although, its impact on the quality of provided care is not clear.

The topic is very complex and a rather specific area of health care provision. Different types of health care professionals need to cooperate despite different and sometimes overlapping roles. Although this area is highly regulated and covered by many legal norms having different levels of authority, some activities remain poorly defined. It appears they would benefit from a more detailed attention of legislators and as well as professional nursing organizations.

Nurses, in general, spend a large part of their working hours on activities related to medication management although the extent of these activities can vary across different types of units. Additionally, medication management is also affected by work organization within the unit as in some instances nurses are performing activities that should be handled by less qualified staff, which has led to a shift of duties, best performed by nurses, to less qualified staff. To ensure adequate standard of care, formal competencies related to medication management should be effectively matched with responsibilities and duties.

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