International Emergency Nursing xxx (2016) xxx–xxx

Contents lists available at ScienceDirect

International Emergency Nursing

journal homepage: www.elsevier.com/locate/aaen

Reflective and collaborative skills enhances Ambulance nurses' competence – A study based on qualitative analysis of professional experiences

Jonas Wihlborg [a,*], Gudrun Edgren [b], Anders Johansson [a], Bengt Sivberg [a]

[a] Department of Health Sciences, Faculty of Medicine, Lund University, Health Sciences Centre, 221 00 Lund, Sweden
[b] Centre for Teaching and Learning, Faculty of Medicine, Lund University, 221 00 Lund, Sweden

ARTICLE INFO

Article history:
Received 27 November 2015
Received in revised form 25 April 2016
Accepted 7 June 2016
Available online xxxx

Keywords:
Ambulance nurse
Nursing
Professional competence
Ambulance care
Prehospital emergency care
Critical incident technique
Qualitative content analysis

ABSTRACT

Background: The Swedish ambulance health care services are changing and developing, with the ambulance nurse playing a central role in the development of practice. The competence required by ambulance nurses in the profession remains undefined and provides a challenge. The need for a clear and updated description of ambulance nurses' competence, including the perspective of professional experiences, seems to be essential.

Aim: The aim of this study was to elucidate ambulance nurses' professional experiences and to describe aspects affecting their competence.

Methods: For data collection, the study used the Critical Incident Technique, interviewing 32 ambulance nurses. A qualitative content analysis was applied.

Results and conclusion: This study elucidates essential parts of the development, usage and perceptions of the competence of ambulance nurses and how, in various ways, this is affected by professional experiences. The development of competence is strongly affected by the ability and possibility to reflect on practice on a professional and personal level, particularly in cooperation with colleagues. Experiences and communication skills are regarded as decisive in challenging clinical situations. The way ambulance nurses perceive their own competence is closely linked to patient outcome. The results of this study can be used in professional and curriculum development.

1. Background

The Swedish ambulance health care services are changing and developing and subsequently, so is the role of the ambulance nurse. Ambulance nurses have had a significant role in the development of practice and could be considered vital to the current advancement in the field. Since 2005 every Swedish ambulance has been manned by at least one registered nurse, often with a specialist degree and, nurses are represented on all organizational levels where they have had great influence on development. This short period of history of ambulance nurses in ambulance health care and rapid development of the area has led to uncertainties regarding professional demands on competence of ambulance nurses. Guidelines for ambulance nurses' competence, stating adequate skills, knowledge, levels of knowledge and other professional competences are missing on a national level. Research has provided a knowledge base regarding the ambulance nurses' competence (Holmberg and Fagerberg, 2010; Suserud, 2005; Suserud et al., 2003; Svensson and Fridlund, 2008; Wireklint Sundstrom and Dahlberg, 2011), but the need for updated and expanded descriptions due to changes of practice is often recognized in professional discourse.

Professional competence is often described as the ability to use knowledge, skills and attitudes in a certain professional context (Benner, 1982). The transfer of theoretical knowledge and skills into useful competences are affected by several external and internal factors such as professional environment, personal abilities, confidence, professional possibilities, physical boundaries and other significant factors which strongly influences the professionals' ability and performance. Professional competence is also regarded as complex and viewed as a number of separate competences specifically needed in a professional area (Bowden and Marton, 2004). Each separate competence consists of theoretical knowledge, practical skills and reflective abilities which displays itself in the acts of the professionals in a specific setting. Different

* Corresponding author.
E-mail address: jonas.wihlborg@med.lu.se (J. Wihlborg).

http://dx.doi.org/10.1016/j.ienj.2016.06.002
1755-599X/

levels of competence can be observed or found in descriptions of professional performance. How professionals act in their profession can be seen as an expression of their level of competence, displayed by their performance. The different levels of competence are not easily identified externally but, by assessing performance a partial description of competence could be obtained. To thoroughly assess and describe a professional's competence, including all levels of competence, a more reflective, and holistic approach should be used (Bowden and Marton, 2004).

In the late 1990s, a specialist nursing programme for ambulance nurses was developed in Sweden. Since then, universities have been closely involved in providing a competence base for these specialist nurses during the early stages of their professional career. The curriculum of a specialist education programme should reflect the actual knowledge, skills and attributes required in a professional setting and be based on a thorough description of the area (Frank et al., 2010). Today, the curriculum of the Swedish specialist nursing education is based on definitions of competences (Sjolin et al., 2014) mainly focusing on medical competence which, historically, was thought to reflect the needs of the profession. What competence the ambulance nurses actually need in the profession, are still undescribed and provides a methodological challenge to researchers as the area of professional competence is complex, contextual and changes over time (Benner, 1982; Dall'Alba and Sandberg, 2006). To form a common definition of competence seems to be essential for the development of the area. Using testimonies of professionals' experiences and exploring their views on competence could provide a useful perspective for descriptions of the field. The aim of this study was to elucidate ambulance nurses' professional experiences and to describe aspects affecting their competence.

2. Methods

This study used a qualitative approach applying the Critical Incident Technique (CIT) (Flanagan, 1954; Schluter et al., 2008) to gather data. Collected data was then analysed according to the guidelines for qualitative content analysis (Graneheim and Lundman, 2004) and presented as subcategories, categories and themes. Considering the qualitative approach of the study, as a point of departure, the authors of this study all had various prior experiences from the field. The authors preunderstanding of the area was considered and discussed in all stages of analysis in order to reduce influence on the results enhancing the credibility of the results. Differences in the authors background varied from no experience at all of nursing or ambulance care to being an experienced ambulance nurse. These differences in author background and experiences were scrutinized, discussed and considered regarding all parts of the study.

2.1. Data collection

Data was collected using CIT via interviews with 32 registered nurses (RNs) from three health care regions in southern Sweden. The method was chosen for its properties of providing rich qualitative content by reflections on situations and actions in the profession (Schluter et al., 2008). All informants had a specialist ambulance nursing degree and were strategically recruited to ensure variation in levels of experience (Table 1). The informants were employed by ambulance services in three different health care regions in the south of Sweden, providing a variation of context representative for ambulance nurses on a national level. In each of the regions there are universities that offer specialist nursing education, which reduces the sole influence of a single educational provider. Recruitment of the informants was made through contact with regional ambulance health care services operations managers who appointed local coordinators who identified presumptive informants in accordance with study inclusion criteria, as stated above. The first author then contacted the informants, providing study information and receiving their written consent of participation in the study. The interviews were conducted by telephone by the first author using two open-ended questions with prompts in accordance with the CIT tradition (Flanagan, 1954). The interview questions were: "*(Q1) – Describe a positive event from your practice as you remember where you experienced that your competence has been adequate to deal with the situation*" and "*(Q2) – Describe a negative event from your practice as you remember where you experienced that your competence has been insufficient for dealing with the situation*". Audio recordings of the interviews were transcribed verbatim and analysed during the same time period as the interviews were conducted in order to value the extent of data collection.

Table 1
Informants and interviews.

Informants (n)	32
Male/Female (n)	22/10 (69%/31%)
Age (years)	32–59 (Md = 37.5)
RN experience (years)	5–34 (Md = 10)
Ambulance experience (years)	2–33 (Md = 10)
Interview time (minutes)	8–34 (Md = 16)
Critical Incidents (n tot)	69
Critical incidents/informant	1–4 (Md = 2)

2.2. Analysis

The interviews were initially read thoroughly by the first and the last author. They noticed that the 69 critical incidents consisted of several reflected experiences within each critical incident. The informative and varied content within each critical incident called for a slightly different approach than the traditional CIT analysis, thus a qualitative content analysis method was chosen (Graneheim and Lundman, 2004) for further analyses. The authors then separately analysed each interview and identified 512 meaning units in accordance with the study's aim. The meaning units were sorted into seven content areas (Graneheim and Lundman, 2004), representing phases of the clinical work. The content areas were labelled: "Presage", "Encounter", "Assessment", "Actions", "Cooperation", "Evaluation" and "Influence". The content area "Presage" included meaning units describing professional prerequisites for clinical work such as individual, educational or organizational prerequisites. The "Encounter" and "Assessment" areas contains content related to the patient meeting, the communicative process and the RNs assessment of patients and situations. The content area "Actions" includes content related to problem-solving, clinical decision-making and performance. The content area "Collaboration" includes cooperative and collaborative units and the area "Evaluation" contains content affecting notions on competence. In the content area "Influence" meaning units representing effects on personal and professional level are gathered. The meaning units of each content area were then condensed and gathered into codes representing related content. A continuous comparison of the separate analysis of the authors resulted in a mutual consensus on this level of analysis. To prevent misinterpretation due to author pre-understanding and enhancing credibility, all authors were included in discussions leading to the gathering of codes and the formation of subcategories and categories. At this manifest level of analysis, categories were formed by the abstraction and summarization of subcategories (Table 2). The results of the analysis on manifest level were presented in a table (Table 3)

Please cite this article in press as: Wihlborg, J., et al. Reflective and collaborative skills enhances Ambulance nurses' competence – A study based on qualitative analysis of professional experiences. Int. Emerg. Nurs. (2016), http://dx.doi.org/10.1016/j.ienj.2016.06.002