



ORIGINAL ARTICLE

Assessment of knowledge and skills of neonatal nurses on peristomal skin care



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KEYWORDS

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Abstract The aim of this study was to assess the knowledge and skills of neonatal nurses regarding peristomal skin care in neonates. This was a descriptive study conducted throughout three neonatal intensive care units in one hospital in Ankara, Turkey. The data was collected using knowledge and skills forms regarding stoma care. The mean scores of nurses' knowledge and skill levels regarding peristomal skin care were determined as respectively 59.09 ± 16.1 out of 100 and 53.4 ± 11.7 out of 84. No relationship was found between nurses' peristomal skill score and knowledge score ($p > 0.05$). The interventions used least were: using curve-tipped scissors (90.6%), recording the products used (86.7%) the signature of the nurse who performed the procedure (86.7%), and using the measuring guides (82.7%). A concern from the findings was that only 80% of nurses washed their hands before stoma care even though they were being observed. The results show there is a need for development of nurses' knowledge and skill levels in relation to peristomal skin care.

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Introduction

One of the issues requiring special knowledge, skill and experience for neonatal nurses is stoma care.

Stomas may be necessary due surgical conditions such as necrotizing enterocolitis, Hirschsprung's disease, anorectal malformations, volvulus and malrotation in pediatric and neonatal patients and, to a lesser extent, because of inflammatory bowel disease, intestinal tumors or abdominal trauma (Eltayeb et al., 2010; Hamada et al., 2012; Hosseinpour et al., 2012). A stoma is opened as a

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life-saving device for congenital or acquired diseases in pediatric clinics or as one of the stages of surgery in complex cases (Ball and Bindler, 2006; Calda et al., 2009).

Neonatal surgical interventions have been well developed in recent years. More effective surgical results can be found both for congenital malformations and problems encountered in the neonatal period (Adams et al., 2010; Pierro and Hall, 2003; Rees et al., 2005). Neonates are a high risk patient group in terms of complications related to the stoma opening (Numanoğlu et al., 2006; Sigh et al., 2006).

Stoma complications include peristomal skin problems, hemorrhage, ischemia, necrosis, intestinal prolapse, stenosis, retraction and peristomal hernia (Aguayo et al., 2009; Cigdem et al., 2006; Duchesne et al., 2007). The main reasons for the development of such complications is poor selection of the stoma area before the operation, surgical technique, other diseases that the patient suffers from, an unsuitable adapter-bag system for the stoma, and a lack of knowledge and skills related to stoma care on the part of the individual with the stoma or their caregivers (Aguayo et al., 2009; Pena and Levitt, 2006; Uba and Chirdan, 2003).

The main objective of stoma management is to prevent stoma complications by using team collaboration and evidence-based nursing. The criteria necessary for this are suitable stoma care, including preparation of a care plan, and monitoring the training and practices of health care professionals (Hockenberry, 2005).

The presence of nurses trained in stoma care reduces the development of complications and increases the quality of care (Aguayo et al., 2009). Therefore, assessment of pediatric and neonatal nurses' skills and knowledge regarding the topic is important. While some studies that determine the level of pediatric nurses' knowledge and skills about stoma skin care are available (Arndt et al., 2005; Fellows, 2005; Waller, 2008), in Turkey no studies on this subject can be found.

The purpose of this study was to evaluate neonatal nurses' knowledge and skills in relation to peristomal skin care.

Research questions were as follows:

- What are neonatal nurses' knowledge level regarding peristomal skin care?
- What are neonatal nurses' skill level regarding peristomal skin care?
- Is there a relationship between neonatal nurses' levels of knowledge and skill?

Methods

This observational and descriptive study was approved by the institutional review board and each nurse provided oral and written consent. Data were collected between October 2012 and January 2013.

Sample selection

The study was conducted in neonatal intensive care units in one hospital in Ankara, Turkey. This hospital was selected because it is the largest hospital in Ankara, housing 3 neonatal intensive care units with 150 incubators and open beds at level II and III (Intensive and High Dependency Care).

165 ward nurses working throughout the three neonatal intensive care units, and who agreed to take part in the research were included in the study. 20 nurses were off duty or not within the hospital when the study was carried out, 6 nurses did not complete the orientation program, 10 nurses participated in the pilot study and 9 nurses did not agree to participate in the study, therefore, the study was conducted with a total of 120 nurses. In the determination of observation numbers of stoma skin care of nurses, the 'determination of sample size in case of the knowing the individual number in the universe' formula was used (Sumbuloglu and Sumbuloglu, 1993).

According to the formula, it was determined that at least 75 observations should be made in the scope of the research. During the research, stoma care of 75 nurses was observed. In the study, nurses who had worked in the neonatal intensive care unit (NICU) for at least 6 months, who had completed the orientation process and who had agreed to participate in the study were included. In addition, neonates whose stomas had been activated after the operation and required stoma bags were included in the study.

Data collection instruments

For data collection, a form providing the descriptive characteristics of nurses and neonates, a knowledge assessment questionnaire, and a skill assessment checklist for peristomal skin care was used.

Descriptive characteristics form for nurses and neonates

This consisted of 16 questions in total, which included nurses' gender, age, experience in

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