

Service Priorities and Programmes

Electronic Presentations

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Modernization of Bowel Management System (BMS) in Intensive Care Unit (ICU)

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Keywords:

Modernization of bowel management Bowel management sytem Diarrhea Environmental contamination Nursing time Pressure ulcer

Introduction

Diarrhea is a common symptom among hospitalized patients, particularly in ICU. It is one of the most common associated risk factors for pressure ulcer. Diarrhea is also risk of environmental and staff contamination during handling. In addition, it places a heavy burden on nursing time. A new Bowel management system (BMS) had been adopted for critically ill patient with diarrhea in ICU. The BMS allows liquid or semi-liquid stool to be diverted from wounds and surrounding skin, hence reducing the risk of both skin breakdown and nosocomial infections. The purpose of this study was primarily to evaluate the effectiveness of BMS on the patients with diarrhea in ICU.

Objectives

(1) to evaluate the effectiveness of BMS associated with pressure ulcer; (2) to evaluate the effectiveness of BMS associated with the environmental contamination,
(3) to evaluate the effectiveness of BMS associated with the nursing time consumption.

Methodology

A repeated cross-sectional design was employed to evaluate the effectiveness of BMS on the patients with diarrhea. Outcome measures were categorized as (1) Incidence of pressure ulcer and the healing status; (2) Duration of using BMS and the amount of fecal waste being collected. (3) Nursing time consumption.

Result

Total 35 patients with diarrhea had been adopted BMS within 3 years. The duration of BMS indwelling from one day to twenty three days (mean = 6). Amount of fecal waste was collected in a close system from 220 ml in one day to 7990 ml in 23 days, an average volume of approximately 530 ml fecal waste was isolated from environment

per day. On the other hand, total 10 patients (29 %) acquired pressure ulcer in stage 1 to 2 before the BMS insertion. All of them were improved or healed after that. No new pressure ulcer was found in the recruited population. Finally, nursing time was decreased almost in half (p=0.001) in the group of BMS (mean = 6.9) which compared with the traditional method (mean = 13.1). The study found that the BMS was beneficial to prevent pressure ulcer on patients with diarrhea. It also reduced the chance of fecal contamination to environment and health care worker. In addition, it demonstrated the direct cost benefits on nursing time. However, further studies are recommended to measure clinical and economic outcomes associated with the BMS.