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## **A research and development of a set of dialysis bag-mattress innovation for pressure sore prevention in patients with fracture femur receiving leg traction**

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This research and development aimed to develop a set of Dialysis Bag-Mattress Innovation and determine its efficiency and effectiveness for pressure sore prevention. The samples consisted of 40 patients with fracture femur receiving leg traction and 19 staffs at a Male Orthopedic Ward, Mahasarakham Hospital. The samples were purposively selected and the patients were randomly assigned to either an experimental or a control group. Patients in the experimental group used the set of Dialysis Bag-Mattress Innovation. The control group primarily used electric air mattress. Data collection instruments included 1) Demographic data record form 2) The efficiency of an innovation assessment form 3) The satisfaction of patients and staffs form and 4) The incidence of pressure sore recording form. Data were analyzed by using descriptive statistics, t-tests, and chi-square analysis. The result revealed that the innovation were durable material and could be easy and convenient to use, easily cleaned and stored. The innovation made patients more safe and comfortable and would help saving the cost of care. Staffs and patients had satisfaction on using the set of Dialysis Bag-Mattress Innovation at high levels. Comparing pressure sore occurring between the experimental group and the control group showed there was no statistically significant difference ( $p > 0.05$ ). The results indicated that the innovation can prevent pressure sore efficiently and effectively. It can also be used instead of electric air mattress.

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