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PRANEE LEEWIRIYA : ESTABLISHMENT OF PARENTERAL NUTRITION
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Parenteral nutrition (PN) is a complex formulation of nutrients, and usually requires admixing before administering to patients via parenteral route. At Lopburi Hospital, PN was prescribed and administered as multiple bottles of solution hanging together. This caused more workload to nurses and might cause infectious complications to patients. Parenteral Nutrition Preparation Unit (PNPU) was set up at Pharmacy Department and would compound PN to be administered as two macronutrients (dextrose and amino acid) in one bottle. PN order forms containing a standard formula and guidelines for daily nutritional requirements, PN preparation form, label, and patient's PN profile record were designed, and working area with laminar air flow hood were validated for air cleanliness. The evaluation of nutritional problems and pattern of PN usage were conducted by reviewing surgical patients medical records from 1 March to 30 April 1996, and from 1 August 1996 to 31 January 1997 (after the establishment of PNPU). About 27.7% (26/94) of patients of pre-PNPU period and 38.1% (69/181) of patients of PNPU on-service period were malnourished on admission. According to guidelines adapted from the American Society for Parenteral and Enteral Nutrition, 79.8% (75/94) of patients of pre-PNPU period and 70.2% (127/181) of patients of PNPU on-service period were accounted for appropriate indication to receive or not receive PN. Nevertheless, 63.3% (19/30) of patients of pre-PNPU period and 59.0% (46/78) of patients of PNPU on-service period who had indication of PN did not receive PN. One hundred and thirty-eight bottles of PN were prepared and administered to 10 patients of PNPU on-service period. These PN were administered for total of 72 patient-days (average 1.92 bottles/per patient-day). All of the PN formulas were modified to suit patients. These patients were also closely monitored for PN usage. This resulted in the average cost of PN administration per patient-day which included cost of nutrients and laboratory monitoring was 1,400.15 Baht compared to 851.08 Baht at pre-PNPU period, and the cost per bottle was 496.75 Baht compared to 276.83 Baht at pre-PNPU period.

The study revealed that PN prepared from PNPU cost more due to very few patients during the study period. However, it is necessary to provide nutritional support and physicians should be encouraged to use PN prepared from PNPU.