Screening and managing retention of urine in an Acute Stroke Unit

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Introduction
Retention of urine [ROU] is dramatically increased following stroke. The prevalence of ROU is reported as 21 to 47% in post-stroke patients. The condition provokes urinary tract infection, nephropathy, and prolonged hospitalization. Stroke services should have ROU screening and management protocol.

Objectives
The aim of the program was to develop a structured assessment and management protocol for ROU in the Acute Stroke Unit. The objectives were: 1. to formulate an algorithm of screening and managing ROU in acute stroke patients; 2. to early detect ROU; and 3. to provide clinical guidance on urinary catheterization in the Unit.

Methodology
A screening of post-void residual [PVR], using a portable ultrasound bladder scanner, was performed on all acute stroke patients within 24 hours of admission. ROU was defined as PVR over 150ml. For patients with significant PVR (>200ml), urinary catheterization was started. Nursing interventions including double voiding, correcting voiding position, treating constipation, providing adequate fluid intake, and reviewing medications were suggested for PVR between 150 to 200ml. Catheterization was needed if the repeated PVR was still over 150ml.

Result
There were 370 patients undertook the ROU screening from 9 September 2014 to 7 January 2015. Two of them were excluded because they were not in the ASU specialty and the other seven were previously inserted with urinary catheter. There were 188 (52.1%) males and 169 females. Their age ranged from 26 to 96 years with a mean age of 71.7 years. Compared to those without catheterization, patients finally being catheterized (n=57) were significantly older (mean age 75.8 vs 71.0 years,
There was no significant difference of catheterization in the gender distribution (p=0.383, x2 test). Of the 221 patients who did not have any recent signs and symptoms of ROU, 54 (24.4%) and 41 (18.6%) were screened with PVR over 150ml and 200ml respectively. There was statistical difference of PVR before and after nursing interventions employed to relieve ROU condition (p=0.000, t test). This protocol was considered effective in detecting nearly 25% of unnoticed post-stroke ROU and reducing PVR, and hence the need of catheterization.