A Trial Without Catheter (TWOC) Model for Patients in the Community: Outcomes and Predictors of Successful TWOC

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Keywords:
Trial without catheter
Community
Outcomes
Predictors

Introduction
Trial Without Catheter (TWOC) is an integral part of indwelling urinary catheter management. TWOC performed in the community for non-ambulatory patients allows timely procedure with reduced risk of untoward events in hospital, elimination of patients' toil and cost in transportation and decreased burden of hospital services. Whereas guidelines on TWOC vary in local clinical settings, a TWOC Model for Patients in the Community with evidence-based support was formulated in the PMH Community Nursing Service (CNS) Department in 2015 to develop standardized care pathway. It is well worth evaluating the current practice or pathway on TWOC and its outcomes by investigating the success rate of TWOC and sustainability of successful TWOC. A better understanding of predictors of successful TWOC in the community can also facilitate a nurse-initiative TWOC to shorten the duration of catheterization, minimize risk of complications and reduce the hospital service utilization.

Objectives
1. To investigate the success rate of TWOC; 2. To explore the sustainability of successful TWOC; 3. To determine the predictors of successful TWOC in the community

Methodology
The literature search was conducted from electronic databases including Medline, CINAHL, EMBASE, PubMed, Cochrane database and Joanna Briggs Institute EBP Database. Keywords searched include outcome or predict* or factor, trial without catheter or trial of void or voiding trial or urinary catheter remov*. Research studies, which were written in languages other than English and were published before 2000, were excluded. The literature review revealed that most studies focused on success rates of TWOC and predictors for successful TWOC done during hospitalization or in the outpatient clinics. No previous study had explored the outcomes of TWOC.
conducted at patients’ homes. A retrospective design was adopted in this study. The study period was from 1 December 2015 to 28 February 2017. Patients referred to PMH CNS for TWOC and received care under the TWOC Model for Patients in the Community during the aforesaid period were recruited. Successful TWOC is defined as voiding more than 100ml or with wet napkin and post void residual less than 300ml and without symptoms of acute retention of urine (AROU) after catheter removal. For sustainability of successful TWOC, the need of re-catheterization due to AROU in following 2 days, 2 weeks and 4 weeks after TWOC was explored. Univariate logistic regression would be performed to determine the effects of socio-demographic and clinical factors on successfulness of TWOC.

**Result**
Preliminary result of the study showed that 178 TWOC were done with a success rate of 62%. Mean age of the patients was 80 years. 56% of them were male and 63% were living in elderly homes. Patients with unsuccessful TWOC were arranged earlier follow-ups or clinical admission for TWOC in accordance with the model. In conclusion, the TWOC Model for Patients in the Community delivered standardized and evidence-based practice on TWOC for non-ambulatory patients at their homes. This model promoted the optimal outcomes of TWOC for a patient with indwelling urinary catheter.