

The effects of intervention by a dedicated urology team on reduction of catheter associated urinary tract infections, morbidity and mortality in hospitalized patients

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Introduction & Objectives: Catheter Associated Urinary Tract Infections (CAUTI) are responsible for approximately 10% of all hospital-acquired infections. Number of days of indwelling urinary catheter is the most significant predictor of CAUTI. Methods of reducing CAUTI focus on increasing awareness of medical personal. However, the concept of a urological team dedicated to reduce unnecessary urinary catheter usage in hospitalized patients has not yet been reported. The aim of this study was to evaluate the prevalence of indwelling urinary catheters in medical wards and to report the effect of a dedicated urology consulting team on CAUTI and catheter usage.

Materials & Methods: A prospective before-after study comparing two consecutive periods. The study was conducted in 6 departments of medicine in a tertiary hospital between February to August 2017. The first 3 consecutive months comprised of observation alone. In the second 3 months period an intervention was introduced consisting of a urologist that visited all participating wards daily, initiated educational activities to reduce the use of catheters, conducted daily evaluation of the opportunity to remove the catheters and recommended interventions to increase the chance of successful catheter withdrawal. Primary endpoints were catheter days and CAUTI rates. Comparisons between periods were performed using the Chi² test and Mann-Whitney U test for categorical and continuous variables, respectively.

Results: During the study period, 1574 patients carrying a urinary catheter were treated in the medical wards out of 8889 hospitalized patients, 827/4392 (19%) patients during the observation period and 747/4497 (17%) patients during the intervention period (NS). Both groups were similar in terms of age, sex and comorbidities. Catheter days were reduced from 6,158 out of 20,164 (31%) patient days during the observation period to 4,672/20,489 (23%) in the intervention period ($p < 0.01$). Fewer CAUTI events per 1000 catheter days were observed during the intervention period: 7.07 vs. 10.77 in the observation period ($p < 0.05$). Additionally, the median catheterization duration per patient was reduced significantly from interquartile range of 2-7 days to 2-6 days ($p = 0.032$).

Conclusions: A urologist consulting in medicine wards can achieve reduction of catheter days and CAUTI through active participation in decision making of catheter usage during hospital stay. The results of this study support the use of a urology team in addition to other infectious control measures in medicine wards.