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A randomized trial for the safety and effectiveness of a new catheter device to assess patient's quality of life and reduction of catheter-associated urinary tract infection

Introduction: Over one million people worldwide live with Foley catheters in their life time due to various medical and surgical conditions. The most common indications include urinary retention or incontinence, following prostate surgery, bladder sphincter malfunctioning, wound management and to manage patients who are bedridden. Long-term indwelling urinary catheters are found with difficulties in carrying and keeping the catheter bags when travelling. This leads to depression and anxiety among otherwise active patients on long term indwelling catheters. Moreover, it limits the ability of patients to engage in physical activities, perform household chores, attend social activities and lead to difficulties in maintaining relationships and patient's sexual life. Most commonly it causes catheter associated urinary tract infection. There are alternative devices or modifications such as Tru-Flo valves, suprapubic and condom-type devices to overcome catheter related discomfort into certain extent. A new catheter device introduced in this study has overcome the limitations of those alternatives and it certainly will have positive impact on the lives of patients on long term indwelling catheters.

Aim: To explore the potential impact of the use of new catheter device on individual quality of life, experiences and perceptions of people living with long term indwelling urinary catheter by comparing it with the use of the conventional catheter.

Material & Methods: The study included 11 patients randomly selected out of 34 patients hospitalized between 03 January 2015 and 11 March 2015 for monthly basis catheter change. The exclusion criteria were patients diagnosed with psychiatric illness, bedridden patients, patients who are on supra pubic catheters, patient who do not have bladder sensation. Data on three aspects; comfort, psychological feeling and quality of life, were collected before (under traditional catheter) and after the use of test device). After-use data were collected after using it for 10 hours. Each aspect was accounted during 6 different routine situations; working, walking, resting, staying with family, staying with friends and micturition. Since the responses were made on 7-point ordinal scale (satisfied very much, satisfied moderately, satisfied slightly, neither satisfied nor dissatisfied, dissatisfied slightly, dissatisfied moderately and dissatisfied very much), the comparison between before and after was done using the sign rank non-parametric method. PROC UNIVARIATE of SAS was used for the analysis.

Results: For all situations of different aspects, i.e., with respect to 18 response variables, no patient had showed any clinical signs or symptoms of discomfort after using the new catheter device. Hence for all response variables the sign rank test statistic was 33 with $P=0.001$.

Conclusion: The new catheter device is an effective method of increase the quality of life of these patients. Further, the study has shown that with the use of this new device this patient can attend to normal day to day life activities that are not possible with traditional Foley catheters. Moreover, their confidence and psychological wellbeing have improved with the use of new device.

Biography

Anuruddhika Iroshani Jayarathna is working as a Nursing Officer in Cardiothoracic Intensive Care at Teaching Hospital Kandy, Sri Lanka. Her research interest helped her to find what the obscured etiology of migraine pathophysiology is in 2010. Her ongoing work focused on the therapeutic aspects of relieving hypoxia to paranasal sinuses including reduces nitric oxide production in the related disorders settings.

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