

**URINARY TRACT INFECTIONS AMONG CHILDREN WITH SPINA BIFIDA
DOING CLEAN INTERMITTENT CATHETERIZATION IN EASTERN
UGANDA**

BY

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DECLARATION

I Auma Martha Joanita, declare that this research dissertation is my original work, except where due acknowledgement has been made. I declare that this work has never been submitted to this University or to any other Institution for funding or for partial fulfillment for any award.

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DEDICATION

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ACRONYMS AND ABBREVIATIONS

CIC: Clean Intermittent Catheterization

UTI: Urinary Tract Infections

SB: Spina Bifida

CDC: Center for Disease Control

PVR: Post-Void Residual

CCH: CURE Children's Hospital

REC: Research and Ethical Committee

WHO: World Health Organization

OPERATIONAL DEFINITIONS

Clean Intermittent Catheterization: Refers to the process of inserting and removing a catheter to empty the bladder multiple times a day.

Urinary Tract Infections: Microbial infiltration of otherwise sterile urinary tract for a child with Spina Bifida doing clean intermittent catheterization.

Spina Bifida: Refers to failure of the spine and the spinal cord to form completely.

CDC: Center for Disease Control

Severe Adverse Effects (SAE): Severe adverse event (SAE) is any undesirable experience associated with the use of a medical product in the patient that can result into life threatening condition, disability or permanent damage, hospitalization (initial or prolonged) and death to the participant.

ABSTRACT

Background: Urinary tract infections (UTIs) are a common childhood bacterial infection globally. Despite the use of urinary catheters, studies have reported a high prevalence of UTIs in children. This study investigates the prevalence, antibiotic susceptibility, and associated factors of UTIs among children with Spina Bifida using clean intermittent catheterization (CIC) in Eastern Uganda.

Methods: A cross-sectional study employing quantitative and qualitative methods was conducted at CURE children's Hospital among children with Spina Bifida doing CIC. The purposive simple-random sampling strategy was used to collect data using interviewer administered questionnaires for quantitative and Key informant interviews for qualitative data collection. All the data collection tools used were pretested and validated. Urinalysis test was done for all samples to identify a UTI; the samples with the UTI were cultured on CLED and MacCkonkey agar and incubated for 24 hours to identify the bacteria causing the UTI, following the clinical Laboratory Standards Institute guidelines. The quantitative data collected was entered in Microsoft Excel then exported to STATA 14 for statistical analysis. Qualitative data was organized and analyzed thematically by inductive coding method using Nvivo 12 software.

Results:

In this study, 235 children with Spina Bifida doing CIC participated, the majority of whom were children of age range 20-31months and 20 care-takers. The study found a high prevalence of UTIs (62.55%, 95% CI: 56.14%-68.55%) among children with Spina Bifida doing CIC. The most common isolates were E. coli (33.33%) and S. Aureus (20.0%). A high sensitivity to Levofloxacin (71.1%) for gram-positive isolates and Gentamycin (62.2%) for gram-negative isolates was found. However, caregivers' knowledge on CIC and urinary catheter care was limited.

Conclusion:

This study highlights the high prevalence of UTIs among children with Spina Bifida using CIC in Eastern Uganda. Our findings emphasize the need for healthcare workers to educate caregivers on proper CIC techniques and urinary catheter care, regardless of their experience. This education can help reduce the incidence of UTIs and improve the quality of life for these children.

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