

**MAKERERE**



**UNIVERSITY**

**COLLEGE OF HEALTH SCIENCES  
SCHOOL OF MEDICINE  
DEPARTMENT OF ANAESTHESIA**

**ANTIMICROBIAL PROPHYLAXIS IN CAESAREAN SECTION IN MULAGO  
HOSPITAL: EFFECT OF ADMINISTRATION TIME ON INCIDENCE OF POST-  
OPERATIVE INFECTION: RANDOMISED CLINICAL TRIAL**

**INVESTIGATOR  
DR. LOMANGISI DIANA DLAMINI  
(MBChB, Medunsa)**

**A DISSERTATION TO BE SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF  
MEDICINE (ANAESTHESIOLOGY AND CRITICAL CARE) OF MAKERERE  
UNIVERSITY**

**JUNE 2014**

## DECLARATION

I declare that this study is original and has not been published and/or submitted for any other degree award to any university before.

Signed..... Date.....

Dr Lomangisi Diana Dlamini

This dissertation has been submitted for examination with approval of the following supervisors:

Dr Arthur Kwizera

MBChB, MMed (Anaesthesiology)

Signed..... Date.....

Dr Musa Sekikubo

MBChB, MMed (OBS & GYN)

Signed..... Date.....

## **DEDICATION**

This book is dedicated to all the special women in my life past, present and future generation for a better health for all.

## **ACKNOWLEDGEMENT**

My family - husband Mr Deogratius Sserumaga and daughter Charlene thank you for the support you gave me throughout the study.

My supervisors Dr Arthur Kwizera and Dr Musa Sekikubo thank you for the support and advice on this study.

My faithful and hard-working research assistants Jjuuko David and Kaweesa Isaac you worked tirelessly to give complete results your work is appreciated.

My statistician Dr Humphrey Wanzira thanks you for the good work.

To the Labour suite theatre team thank you for the support.

Above all praise be to God for the gift of life, strength and wisdom He gave me throughout the study.

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## Operational Definitions

**WHO:** World Health Organisation

**Prophylactic antibiotics:** antimicrobials given before contamination or infection to prevent post-operative infection

**Infection:** Invasion by and multiplication of pathogenic microorganisms in a bodily part or tissue, which may produce subsequent tissue injury and progress to overt disease through a variety of cellular or toxic mechanisms.

**Early post-operative infection:** any sign of infection that will start 24 hours after surgery up to 10 days. Include: post-surgical wound infection, endometritis and fever morbidity.

**Endometritis:** presence of fever accompanied by uterine tenderness, maternal tachycardia or leukocytosis that happen postpartum.

**Post-surgical Wound infection:** infection on operation scar that occurs within 30 days after the operation.

**Fever morbidity:** temperature more than 37.8<sup>0</sup>C after 24hours post operatively

**Elective caesarean section:** a planned caesarean section done when the mother is not in labour.

**Emergency caesarean section:** caesarean section done when the mother is in labour and there is deterioration to either maternal or foetal condition.

**Neonatal sepsis:** defined as sepsis within the first 28 days of life.

**Early neonatal outcomes adverse outcome:** admission to special care unit or a neonatal unit for sepsis within the first 10 days of life.

## **ABSTRACT**

**Background:** Prophylactic antibiotic administration is used to prevent post-surgical infection after caesarean section. Studies have suggested that the timing of prophylaxis plays an important role (Classen et al., 1992). There have been observed differences in outcome based on timing of administration. This is different depending on one group giving before skin incision another after skin incision. There is evidence that before skin incision has less incidence of post-operative infection without adverse neonatal outcome (Baaqeel & Baaqeel, 2013; Costantine et al., 2008). Over the years, the role of the anaesthesiologist in administering prophylactic antibiotics has come to prominence. There is increasing need for anaesthesia providers to understand the rationale of antimicrobial prophylaxis.

**Objective:** To compare the effect of administration of prophylactic antibiotic within one hour before skin incision and administration after skin incision on the incidence of post-operative infection in caesarean section patients in Mulago Hospital.

**Design:** A Single blinded randomised clinical trial done in Mulago Hospital on patients booked for caesarean section in labour ward theatre. The total sample size was 464.

**Procedure:** Patients were randomly allocated a group number which placed them on either arms of the study. They received the same prophylactic antibiotic according to their allotment that is either within one hour before skin incision or after skin incision as per current standard of practice. They were followed up for post-operative infection up to 10 days post operation. Data was entered with EpiData 3.1 and analyzed with STATA version 12.

**Results:** A significant difference of 19.2% P value 0.022 was seen when comparing incidence of overall post operative infection being less when prophylaxis is given before skin incision. Endometritis was found to be significantly reduced when giving prophylaxis before skin incision P value 0.036, whereas the difference in incidence of wound infection was not significant.

**Conclusion:** Giving prophylactic antibiotic before skin incision reduces incidence of post operative infection more especially endometritis.