

**MAKERERE**



**UNIVERSITY**

**COLLEGE OF HEALTH SCIENCES**

**SCHOOL OF MEDICINE**

**DEPARTMENT OF ANAESTHESIA**

**EVALUATION OF EFFICACY AND SAFETY OF LABOUR ANALGESIA BY  
INTRATHECAL MORPHINE WITH FENTANYL**

**COMPARED TO**

**MORPHINE WITH BUPIVACAINE IN MULAGO HOSPITAL**

**A DOUBLE BLINDED RANDOMIZED CONTROL TRIAL**

**BY**

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## DECLARATION

I Dr Timothy Muyimbo, hereby declare that the work presented was personally done by me in Mulago hospital Uganda and this dissertation has not been presented for any other degree or academic award in any other University or higher institution of learning.

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## **DEDICATION**

This book is dedicated to all health workers trying with the little facilitation available, to make their patients' lives better.

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## **ABBREVIATIONS/ACCRONYMS**

**IM** - Intramuscular injection.

**ITN**- Intrathecal narcotics.

**ITA**- Intrathecal analgesia.

**IV** - Intravascular injection.

**PI** - Principle investigator.



## **OPERATIONAL DEFINITIONS**

### **PARTURIENT**

Is a woman in labour or one about to give birth.

### **ACTIVE LABOUR**

Is the period of increased rapidity of cervical dilation from 4cm that ends with complete cervical dilation of 10 cm (Campbell & Lees, 2000).

### **PAIN**

Is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage (Merskey, 1979).

### **ANALGESIA**

Absence of the sense of pain without loss of consciousness.

### **ANAESTHESIA PROVIDER**

In this study refers to a person with the necessary knowledge and skills to administer safe anaesthetic.

### **EFFICACY**

In this study refers to longer duration of analgesia.

### **SAFETY**

In this study refers to absence or less occurrence of side effects.

### **VISUAL ANALOG SCALE**

Is a psychometric response instrument for quantifying of subjective characteristics or attitudes that cannot be directly measured, in this case pain and pruritus.

### **BROMAGE SCALE**

Scale which assesses the intensity of motor block by the patient's ability to move their lower extremities.

## **THE PREGNANCY UNIQUE QUANTIFICATION OF EMESIS/NAUSEA SCORE (PUQE)**

Assessment guide developed by clinicians and researchers to ascertain the Mother risk for nausea and vomiting.

## ABSTRACT

Pain during labour is severe and in developed countries, is always treated with methods including neuraxial techniques such as combined spinal epidural analgesia. This improves maternal satisfaction with the birthing process. Studies have been done that show ITN is a cheaper yet efficacious alternative in settings where the more expensive therapeutic is not feasible. Several studies found that many African women would desire to have labour analgesia if given the opportunity. Similarly a study by Dr Nabukenya, 2013 in Mulago showed 87.91% of the participants wanted labour analgesia for their next delivery. In Mulago hospital no such service exists despite presence of anaesthesiologists and obstetricians with the knowledge, skills of the different possible techniques and availability of medications that can be used in single dose spinal analgesia to treat labour pain. Opioids or local anaesthetics can be used, alone or in combination. In combination, smaller doses are needed to have prolonged synergistic effects. A major limitation in Mulago was unavailability of long acting intrathecal morphine but it's now available. After this study, information will be available regarding how efficacious and safe use of intrathecal morphine in combination with another short acting opioid or local anaesthetic is, in an effort to start a labour analgesia service in Mulago. General objective was to evaluate the efficacy and safety of intrathecal morphine-fentanyl as single dose spinal analgesia in comparison to morphine-bupivacaine regarding duration of analgesia, occurrence of side effects, fetal outcome and maternal satisfaction. It was a double blinded randomized control trial at Mulago hospital labour ward. Parturients in active normal labour were recruited. Sampling was done consecutively on those who accepted ITN, followed by block randomization until the sample size of 138 was achieved. Data was collected by piloted questionnaires, entered into Epi data version 3.1, analyzed by Stata version 12 and disseminated to directorate of research, school of postgraduate studies Makerere University. Study was conducted from 28<sup>th</sup> January to 10<sup>th</sup> March 2014. 138 parturients were recruited with 69 being block randomized to each arm. The mean duration of analgesia was, 3.80 (0.70) hours, 132 (95.65%) of the parturients had onset of analgesia within five minutes, more than 92% of parturients were very satisfied with the analgesia and more than 97% said to recommend it to their friends. The study demonstrated no significant difference in the level of side effects either to parturients or fetus. Both combinations give adequate duration of analgesia. It's cheap and effective with high maternal satisfaction. For both drug combinations, there are no serious fetal effects.