



Faculty of Nursing

**Active management of Prelabor Rupture  
of Membrane: Misoprostol versus  
Oxytocin**

**Thesis**

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and Gynecology Nursing science

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# SUMMARY

## Introduction

Pregnancy and labour usually progress with few problems. The outcomes for the mother and infant are generally positive. However, when complications occur during labour and pregnancy, they can have devastating effects on the maternal and fetal outcomes.

Prelabour rupture of membranes (PROM) is a great problem in contemporary obstetrics. (ACOG, 2000). It is a complication in one quarter to one third of preterm births that is considered as one of the major factors contributing to perinatal mortality and morbidity in normally formed babies. (Pitkin et al, 2003).

PROM is defined as a spontaneous rupture of membranes before the onset of labour at least 1 hour or more, and occurs in approximately 8 to 10% of all term pregnancies (Oats and Susanne, 2005).

The etiology of PROM remains unclear, but a variety of factors are contribute to it's occurrence including vaginal and cervical infection, abnormal cervical and membrane physiology, and nutritional deficiency (Haker et al, 2004).

The risks and complications of PROM that occur depend on the time and duration of PROM. From these complications the more dangerous one is infection, ante partum hemorrhage (A.P.Hge), prematurity and fetal compromise (Pitkin et al, 2003).

The treatment of PROM is based on the assessment of risk to mother and fetus, stage of patient pregnancy (NIH, 2005). Treatment of PROM includes conservative and active management. (Mercer, 2000). Maternal and neonatal infection (infectious morbidity) is influenced by

interval between rupture of membranes and delivery (latency period), for such reason the logistic management of such cases is immediate induction (Sherry, 2001).

Induction of labour involves the stimulation of uterine contractions to produce delivery before the onset of spontaneous labour, and indicated when the potential risks of continuing a pregnancy outweigh the benefits (Harris et al, 2000).

There are several methods of induction that are adopted according to duration of pregnancy and condition of cervix. From these methods that have been advocated currently of induction of labour in patient with PROM is misoprostol that has lower cost, stable at room temperature, and the ability to use it orally may lower the risk of ascending infection, and rapidly absorbed ( Hofmeyr and Gulmezoglu, 2004).

Developing a professional nursing role in caring of women experiencing PROM and center on (minimizing the risk of infection, promoting optimal maternal and fetal status until delivery) can be safely achieved, and monitoring fetal and maternal will being (David and Vinlker, 2004).

## **Aim of the Study**

### **The aims of this study were:-**

- 1- To evaluate and compare the clinical effectiveness and safety of oral misoprostol versus oxytocin to induce labour in the presence of PROM.
- 2- To evaluate effects of active management of PROM on maternal and neonatal outcomes.
- 3- To evaluate woman's satisfaction and experience with nursing role.

### **Hypothesis**

1. Active management with misoprostol will reduce hazards on the mother and fetus in the presence of PROM.
2. Misoprostol effective in some women but not all.
3. Some of woman satisfied but not all

### **Research design**

This study was a randomized prospective clinical trial.

### **Setting**

This study was conducted at the labor ward of the Women's Health Center.

### **Subjects**

A sample of 120 women was recruited in this study and divided into (60 women primigravida & 60 women multipara). During a period of one year. Fig 1: study profile.

### **Inclusion criteria**

- > 34 weeks of gestation
- Live fetus
- Singleton
- Normal admission cardiotocography (C.T.G).
- Free from medical disease
- Favourable cervix (Bishop score  $\geq 7$ )

### **Exclusion criteria**

- Multiple pregnancy
- Breech presentation
- Previous cesarean section (C.S)
- High-risk pregnancy.
- Grand multiparity.

### **Tools of the study**

1-A specially designed interview, which was designed by investigator and supervisors to collect the following data: -

### **Sociodemographic data included:-**

Name, age, address, religion, occupation, educational level & and date of admission.

### **Obstetrical data which included: -**

- Number of gravidity, parity, abortions and stillbirths.

### **Current pregnancy data included:-**

- Gestational age / wks.
- Date & time of randomization.
- Bishop's score.
- Allocated group if primigravida or multipara.

### **Labor data which included:-**

- Randomization to active labor interval.
- Total number of vaginal examination.
- Intrapartum complications such as:

(Fetal distress, maternal distress and obstructed labor)

- Usage of analgesia

### **Delivery data included:-**

- Date & time of delivery.
- Randomization to delivery interval.
- Mode of delivery such as :

Maternal complications such as: Rupture uterus, third degree tear, retained placenta, and others e.g. (post partum pyrexia, puerperal sepsis and post partum hemorrhage).

### **Post partum data such as:-**

1- Maternal satisfaction on labor management if satisfied or unsatisfied., If unsatisfied why?

Maternal satisfaction to mode of induction? Yes or No

If no why?

### **In multiparae**

- Did you use any drugs for induction in past delivery?
- If yes what's the method of induction
- Do you want to induced with other misoprostol or oxytocin and why?
- Was there any companion during last delivery?

### **Neonatal data such as:-**

- Weight /gm.

- Sex (male or female).
- Apgar score at 1 and 5 minutes.
- Cord venous pH.
- Cord venous base excess.
- Neonatal complication such as: (seizures, asphyxia and sepsis).
- Neonatal admission to NICU.
- Date of discharge.

**2- Partograph. (designed by WHO, 1994).**

To assess: –

-Progress of labor

-Fetal condition

- Maternal condition

**Based on the results of the present study revealed the following :-**

- - Misoprostol is still to be an option for active management of term PROM in women with favourable cervix whenever oxytocin resulted in the significant shortest labour intervals.
- - Active management of PROM with oxytocin resulting in achieving a slightly increase in normal vaginal delivery whenever the incidence of cesarean section was somewhat higher in Misoprostol group with no significant differences .So that oral Misoprostol didn't offer any advantages in mode of delivery and decrease the risk of cesarean section .
- - Active management of PROM showed that oxytocin had a slightly increase in hyperstimulation and maternal complications than oral Misoprostol but with no significant difference .On the other hand incidence of gastrointestinal side effects were slightly higher in Misoprostol group but with no significant difference .

- - Active management of PROM with oxytocin and oral Misoprostol resulted in similar neonatal and maternal outcomes with no significant difference.
- -Active management of PROM with oxytocin and oral Misoprostol revealed that despite longer labour intervals most of the women were preferred oral Misoprostol in active management of term PROM
- - Active management of PROM with oxytocin and oral Misoprostol showed a significant maternal satisfaction in both groups related to mother's experience about nursing role and medication.

## **Recommendations**

Based on the results of this study it is recommended that:-

- Further studies with large sample size are needed to evaluating oral Misoprostol in active management of term PROM and to find the right misoprostol dose that combines efficacy with safety.
- One nurse to one patient (case method) must be followed when caring with mother undergoing induction of labour.

These recommendations are not general for the large study (PROMMIS trial) but it is limited for this study.