

بسم الله الرحمن الرحيم





شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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**Oral Misoprostol Solution In Comparison To
Vaginal Misoprostol for Induction of Labour
In a Randomized Controlled Trial**

Thesis

**Submitted for partial fulfillment of Master degree
in Obstetrics & Gynecology**

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List of Contents

<i>Subject</i>	<i>Page No.</i>
List of Abbreviations.....	i
List of Tables	ii
List of Figures.....	iv
Introduction.....	1
Aim of the Work.....	3
Review of Literature	
Induction of Labor.....	4
Misoprostol	32
Patients and Methods.....	60
Results.....	72
Discussion	94
Summary.....	109
Conclusions, recommendations and future research....	117
References.....	118
Arabic Summary	—

List of Abbreviations

Abbr.	Full-term
ACOG	: American College of Obstetricians and Gynecologists
AUC	: Area under the curve
cAMP	: Cyclic adenosine mono-phosphate
CI	: Confidence interval
EDD	: Estimated date of delivery
ELISA	: Enzyme-linked immunosorbent assay
GBS	: Group B streptococcus
IU	: International unit
LMP	: Last menstrual period
LSCS	: Lower segment cesarean section
NST	: Non stress test
PGE	: Prostaglandin E
SD	: Standard deviation
SPSS	: Statistical package for social science
WHO	: World Health Organization

List of Tables

Table No.	Title	Page No.
Table (1):	Modified Bishop scoring system	11
Table (2):	Cesarean delivery rate (percent) for failed induction by Bishop score and parity, circa 1985 (prior to availability of prostaglandins) ...	13
Table (3):	Comparison between the study groups regarding demographic characteristics.....	74
Table (4):	Comparison between the study groups regarding clinical characteristics.	75
Table (5):	Comparison between study groups regarding success rate of induction of labor.	78
Table (6):	Comparison between the study groups regarding induction phase characteristics.	80
Table (7):	Comparison between the study groups regarding oxytocin augmentation of labor.	81
Table (8):	Comparison between the study groups regarding intrapartum fetal status.	82
Table (9):	Comparison between the study groups regarding mode of delivery.....	85
Table (10):	Comparison between the study groups regarding need for intervention.	88
Table (11):	Risk analysis for need for intervention with oral route compared to the vaginal one.	88
Table (12):	Comparison between the study groups regarding induction-delivery interval	90

Table (13):	Comparison between the study groups regarding neonatal outcome.....	91
Table (14):	Comparison between the study groups regarding adverse drug reactions	93

List of Figures

Figure No.	Title	Page No.
Figure (1):	Countries where misoprostol is approved.....	32
Figure (2):	Chemistry of misoprostol.....	33
Figure (3):	Pharmacokinetics of different routes of administration of misoprostol	42
Figure (4):	Proposed mechanism of misoprostol teratogenicity	49
Figure (5):	Flow chart of the studied cases	73
Figure (6):	Bar graph summarizing demo-graphic data of the two groups.....	75
Figure (7):	Bar graph for the clinical and ultrasonographic characteristics of the two groups	76
Figure (8):	Stacked bar graph for the proportion of successful and failed induction in the two groups	79
Figure (9):	Kaplan-Meier analysis for time to active phase in oral and vaginal groups.....	81
Figure (10):	Bar graph for the need of augmentation and maximum dose of oxytocin required in the two groups	82
Figure (11):	Bar graph summarizing incidence of different modes of delivery in both groups.....	86

Figure (12): Bar graph summarizing indication for intervention in both groups.	89
Figure (13): Kaplan-Meier analysis for time to active phase in oral and vaginal groups.	91
Figure (14): Box plot for 1-min and 5-min APGAR scores in both groups.	92
Figure (15): Bar graph summarizing incidence of adverse drug reactions in both groups.	93

Introduction

Induction of labour at term is a common obstetric intervention. Induction of labour is the artificial initiation of labour before its spontaneous onset for the purpose of delivery of the feto-placental unit using mechanical or pharmacological methods (*Mackenzie et al., 2006*). The goal of labour induction is to stimulate uterine contractions before spontaneous onset of labour, resulting in vaginal delivery (*Saeed et al., 2011*).

Cheaper alternatives for induction of labour, stable at room temperature, have the potential to produce substantial cost savings in developing countries and allow safe induction of labour in those countries which cannot provide pharmacological induction of labour (*Hofmeyr et al., 2001*). Misoprostol, a synthetic prostaglandin E1 analogue, presents low cost, storage at room temperature, and widespread availability (*Varsha Deshmukh et al., 2017*).

Misoprostol is a unique prostaglandin E1 analogue. Tablets, marketed for anti-inflammatory drug-induced gastric ulceration, are stable and inexpensive. The use of misoprostol in pregnancy has been reviewed since long time. Introduction of misoprostol was done by Sanchez- Ramos et al. in 1993. Several randomized trials of labour induction with misoprostol have been undertaken (*Iyengar et al., 2016*).

Certain disadvantages are associated with oxytocin use like need to administer it by intravenous route, lack of stability at room temperature, shorter shelf life, and being relatively expensive. Misoprostol has advantages of being easy to use, convenient administration by various routes like the vaginal, sublingual and oral, being stable at room temperature, having a longer shelf life, and being relatively inexpensive (*Antil and Gupta, 2016*).

Overall, misoprostol may be the best prostaglandin for labour induction, as titrated low-dose oral solution seems to be the safest in terms of caesarean section risk, while vaginal misoprostol tablets ($\geq 50 \mu\text{g}$) are the most effective in achieving vaginal delivery within 24 h of induction (*Alfirevic et al., 2015*).

Since 1992 as published in the article of Margulies et al and the initial American clinical report by Sanchez-Ramos et al, detailing the use of misoprostol for cervical ripening and labour induction, there has been growing interest in this agent (*Sanchez Ramos et al., 1993*).

Aim of the Work

To determine the effects of oral misoprostol solution compared to vaginal misoprostol in induction of labour.

Induction of Labor

Induction of labor refers to techniques for stimulating uterine contractions to accomplish delivery prior to the onset of spontaneous labor. Between 1990 and 2012, the overall frequency of labor induction more than doubled in the United States, rising from 9.5 in 1990 to a high of 23.8 percent in 2010, before declining to 23.3 percent in 2012 (*Osterman et al., 2014*).

INDICATIONS

A. Obstetrical and medical

Delivery before the onset of labor is indicated when the maternal/fetal risks associated with continuing the pregnancy are thought to be greater than the maternal/fetal risks associated with early delivery. However, it is influenced by factors such as gestational age, presence/absence of fetal lung maturity, severity of the maternal or fetal clinical condition, and maternal factors related to likelihood of induction success (*ACOG, 2017*).

The only options for intervention are induction of labor or cesarean delivery. Induction is generally preferred when there are no contraindications to labor and vaginal birth, given the increased maternal risks associated with cesarean delivery.