

Systematic review of

Induction and Augmentation by
High dose and Low dose
Oxytocin Infusion in Labor

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INTRODUCTION

- Oxytocin was the first polypeptide hormone synthesized and the 1955 Nobel prize in chemistry was awarded for this.
- Oxytocin is highly effective and safe.
- Use of intravenous oxytocin is extremely common in modern obstetrics and incidence of labor induction or stimulation is between 3-25%.

- Augmentation by oxytocin is administered when spontaneous contractions are considered inadequate.
- Induction is administered when the benefits to either mother and the fetus outweigh those of continuing the pregnancy such as PROM, severe preeclampsia, and post-term pregnancies.

Oxytocin, with its power of producing regular, rhythmical and forcible uterine contractions, should be regarded as a most beneficent and valuable agent, which, however, should always be employed with care and a realisation of its limitations and dangers.

Hofbauer

(The first to use oxytocin to induce labor in 1927)

- Despite its common use in modern obstetrics no unanimity exists as to the optimal dosage regimen.
- There is controversy with regard to proper initial dose of oxytocin and mode of increment.

- Currently recommended starting doses range from 0.5 to 6 mU/min.
- Dosage increments range from 1 to 6 mU/min and the interval between dosage increase ranges from 15 to 60 min.

DURATION OF LABOR

- High dose regimens in some studies were associated with shorter labors. In others labor did not differ in length.

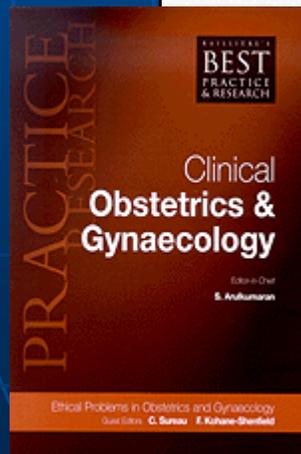
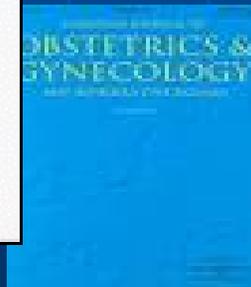
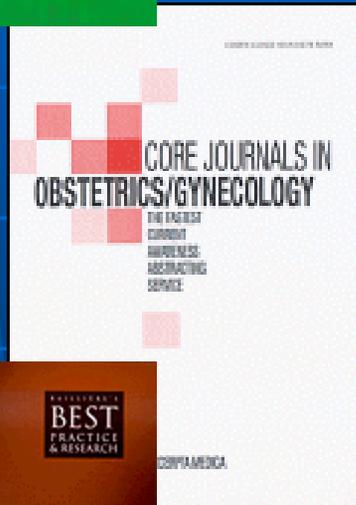
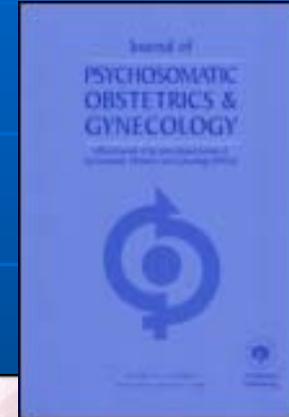
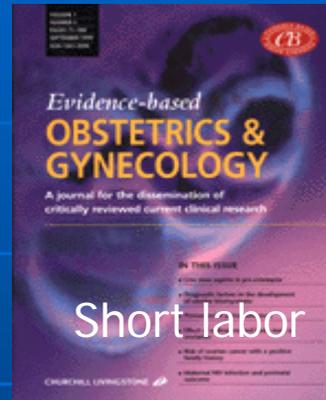
CESAREAN DELIVERY

Some studies suggest that higher oxytocin dosages are associated with less need for cesarean delivery, others suggest an equivalent rate of cesarean delivery.

Why is the study important ?

- PROSTAGLANDINS are expensive and unavailable in many countries.
- OXYTOCIN is highly used in developing countries.
- Because of shortage of skilled health workers, ONE to ONE care is not possible in developing countries.
- Electronic monitoring is not easily available in developing countries.

Searches



Objectives

- To compare augmentation and induction by high dose and low dose oxytocin infusion on labor duration to provide comprehensive and reliable information about outcome.

Types of studies

- Randomized controlled trials comparing augmentation and induction of labor using high dose or low dose oxytocin by infusion pump.

Studies compared

- High dose and low dose oxytocin.
- Having ideally adequate allocation concealment.
- Clinically meaningful outcome measures reported.

Types of participants

- Pregnant women at term
- Singleton fetus in vertex presentation

Methodology

- Electronic database: Medline, Cochrane library, WHO Regional database, Google.
- Additional references from review and primary studies.
- Hand search of journals for full text, if it not available online.

Type of outcome measure

- ✓ **Primary outcomes**
 - Uterine hyperstimulation
 - Duration of labor
 - Type of delivery
 - Assisted vaginal delivery
 - Rate of C/S

Type of outcome measure

✓ Secondary outcomes

- Fetal distress
- Uterine rupture
- Postpartum hemorrhage
- Apgar score
- Neonate hospitalization
- Neonatal intensive care admission

Search strategy

- Keywords for Medline
- Limits: Humans, English
- 1- Induced labor OR Labor, Induced OR Induced labour OR Labor augmentation OR Labour augmentation = 8972
- 2- Oxytocics (MESH term) = 9282
- 3- #1 AND #2 = 716

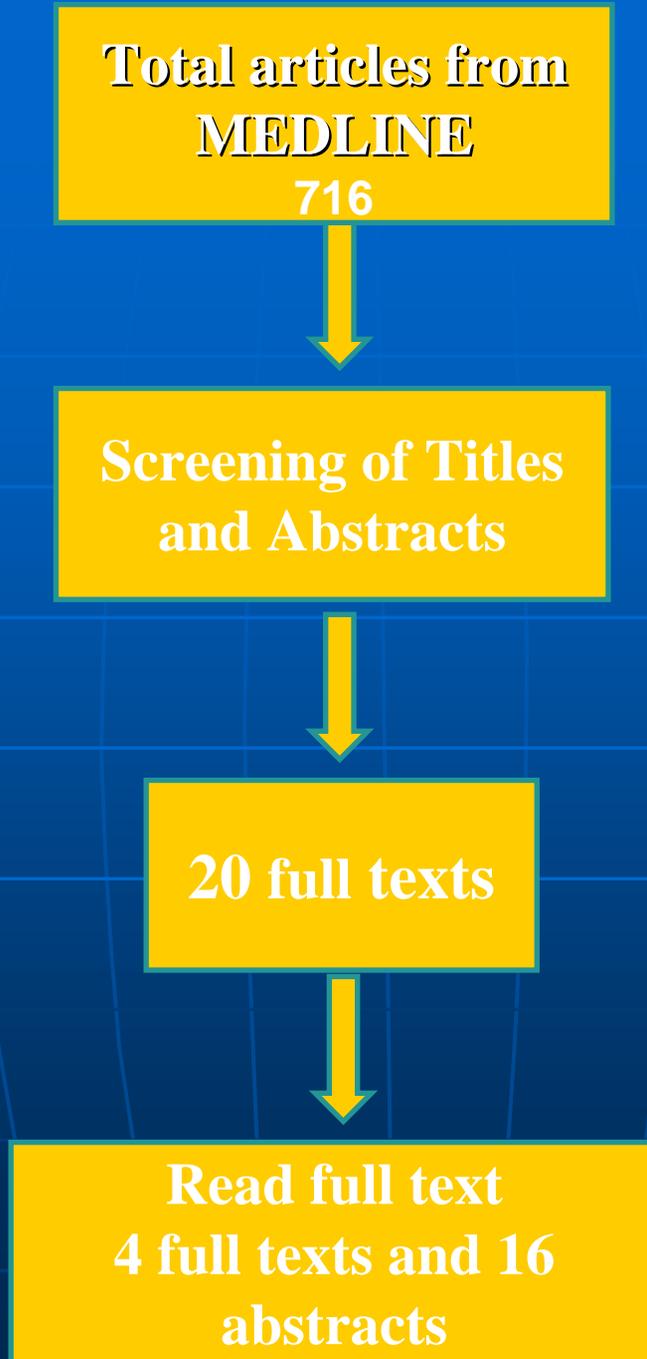
**Total articles from
MEDLINE**

716

**Screening of Titles
and Abstracts**

20 full texts

**Read full text
4 full texts and 16
abstracts**



Problems in review

- Some outcomes have not been measured in the reviewed studies.
- Allocation concealment has not been reported in some studies.

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THANK YOU