INTRODUCTION

Induction of labor (IOL) refers to the process of artificially initiating uterine contractions, prior to their spontaneous onset, with the intention to the effect progressive effacement and dilatation of the cervix and, ultimately, delivery of a baby. The term 'induction of labor' generally refers to procedures performed in the third trimester, but occasionally may be applied to pregnancies at gestations greater than the legal definition of fetal viability (24 weeks in the UK) when fetal survival is an anticipated outcome. Any procedure performed prior to this gestation may be classified as a termination of pregnancy **(Hayman, 2010)**.

Common reasons for induction include: Post-term pregnancy, i.e. if the pregnancy has gone past the 42 weeks gestation, intrauterine fetal growth retardation (IUGR), when there are health risks to the woman in continuing the pregnancy (e.g. she has pre-eclampsia), premature rupture of the membranes (PROM); this is when the membranes have ruptured, but labor does not start within a specific time, scheduling concerns fetal death in utero, twin pregnancy continuing beyond 38 weeks **(ACOG, 2009)**.

Methods of inducing labor include medication and processes. If an induction causes complications during labor, a Caesarean section is almost always conducted. An induction is most likely to result in successful vaginal delivery when a woman is close to or in the early stages of labor. Signs of impending labor may include softening of the cervix, dilatation and increasing frequency or intensity of contractions **(Swamy, 2012)**.

Intravaginal, endocervical or extra-amniotic administration of prostaglandin, such as dinoprostone or misoprostol, in the few controlled trials that have been done, extra-amniotic administration appears to be more efficient than intravaginal or endocervical administration of

prostaglandins in labor induction, with no differential effects on other outcome measures **(Li et al., 2004)**. Administration of synthetic oxytocin preparations, such as Pitocin and using of mifepristone have been described in induction of labor **(Clark et al., 2006)**. Relaxin has been investigated, but is not currently commonly used **(Kelly et al., 2010)**.

Membrane sweep, also known as membrane stripping, or "stretch and sweep" in Australia and the UK - during an internal examination, the midwife moves her finger around the cervix to separate the membranes around the baby from the cervix. This causes a release of prostaglandins which can help to kick-start labor, artificial rupture of the membranes (AROM or ARM), extra-amniotic saline infusion (EASI), in which a Foley's catheter is inserted into the cervix, then saline is infused and the distal portion expanded to dilate it and to release prostaglandins **(Guinn et al., 2004)**.

The Foley's catheter is inserted in order to act as a cervical ripening agent, with the capacity to modify the cervical status, and may have limited effect on uterine contractions, aside from the possible release of prostaglandins. Regarding prostaglandin administration, prostaglandin E_2 given vaginally or intracervically has been shown to be an effective ripening agent. Additionally, prostaglandin E_1 (misoprostol) has been shown to be an effective cervical ripening agent **(Hofmeyr and Gülmezoglu, 2010)**.

Potential advantages of the Foley’s catheter when compared with prostaglandins include lower cost, stability at room temperature, reduced risk of uterine tachysystole with or without Fetal Heart Rate (FHR) changes and appropriateness in an outpatient setting **(Gelber and Sciscone, 2006)**.

Misoprostol acts primarily as an exogenous pharmacological agent with effects both on cervical ripening as well on uterine contractions. A Cochrane review in 2001 comparing all forms of mechanical dilatation with all prostaglandins concluded that there is insufficient evidence to assess the effectiveness of mechanical methods, compared with prostaglandins in women with unripe cervices. The use of these methods, as compared with the use of prostaglandins, was associated with fewer episodes of excessive uterine contractions, without modifications of the risk of caesarean section **(Boulvain et al., 2009)**.

The odds of having a vaginal delivery after labor induction are assessed by a "Bishop Score" **(Faulkner, 2008)**. A Bishop Score is done to assess the progression of the cervix prior to an induction. In order to do this, the cervix must be checked to see how much it has effaced, thinned out, and how far open it is. The score goes by a points system depending on five factors. Each factor is scored on a scale between 0-3, any score that adds up to be less than 5 holds a higher risk of delivering by Caesarean section **(Doheny, 2010)**.

Induced labor tends to be more painful for the woman. This can lead to the increased use of analgesics and other pain-relieving pharmaceuticals. These interventions have been said to lead to an increased likelihood of caesarean section delivery for the baby **(Roberts et al., 2000)**. Research published in the Journal of Perinatal and Neonatal Nursing showed that elective induction in women who were not post-term increased a woman's chance of a caesarean section by two to three times **(Revicky et al., 2011)**.

Due to such controversy in the definite results and the percentage of success in the review which study the comparison between Foley's catheter and misoprostol for induction of labor as some studies favored misoprostol **(Adeniji et al., 2005; Afolabi et al.,2005 and Owolabi et al., 2005)**,

others favored Foley catheter **(Perry et al., 1998; Sciscion et al., 2001 and Culver et al., 2004)** and others showed a balance between their advantages and disadvantages **(Abramovici et al., 1999; Rust et al., 2001; Greybush et al., 2001; Chung et al., 2003; Saleem, 2006 and Hill et al., 2009)**. So, we intended to do this study to put a spot of light and clear such controversy.