

**Labor Induction at Thirty-Nine Weeks: Literature Review**

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## **Labor Induction at Thirty-Nine Weeks: Literature Review**

Labor and delivery are a process that starts at the beginning of a newborn's life. Safe labor and delivery are the optimal goals for every delivery process. A traditional method of labor and delivery is waiting until forty weeks of pregnancy before utilizing labor induction. Quantitative research on labor installation at thirty-nine weeks can highlight the benefits and adverse outcomes of this nontraditional labor and delivery process. Using quantitative research for a literature review could help determine if an earlier induction can result in a more optimal labor and delivery process for mother and baby (Sotiriadis et al., 2018).

### **Maternal and perinatal outcomes after elective induction of labor at thirty-nine weeks in uncomplicated singleton pregnancy: A meta-analysis**

This article's authors include A. Sotiriadis, S. Petousis, B. Thilaganathan, F. Figueras, W. P. Martins, A. O. Odibo, K. Dinas, and J. Hyett, published in 2018 (Sotiriadis et al., 2018). The article is a quantitative review of the outcomes of induction of labor at thirty-nine weeks in an uncomplicated pregnancy (Sotiriadis et al., 2018). A single fetus pregnancy is being studied in the article to discover adverse and optimal outcomes (Sotiriadis et al., 2018). Specifically, this study's objective is to determine what early induction could impact the rate of cesarean deliveries (Sotiriadis et al., 2018).

#### **Key Points**

The study is quantitative research where participants must be thirty-nine weeks and zero days to thirty-nine weeks and six days with a low-risk single fetus pregnancy that underwent medical labor induction (Sotiriadis et al., 2018). The authors then compared the participants' maternal

death rates, neonatal intensive care unit rates, and cesarean delivery rates to those not labor induced at thirty-nine weeks (Sotiriadis et al., 2018). Data collection is through database searches (Sotiriadis et al., 2018). The data concludes that there is a lower risk of maternal hypertension, lower cesarean deliveries, and lower neonatal respiratory support with the induction of labor at thirty-nine weeks (Sotiriadis et al., 2018). The data does support a moderate significance that the induction of labor at thirty-nine weeks can lower cesarean deliveries (Sotiriadis et al., 2018). The P-value for this study is 0.01, which leads to the probability that the hypothesis is true (Sotiriadis et al., 2018). The article proposes that labor induction at thirty-nine weeks lowers the risk of c-sections, maternal hypertension, and neonatal respiratory support (Sotiriadis et al., 2018).

### **Assumptions**

The author's assumption of the research article includes providing a more optimal outcome for mother and baby during labor and delivery (Sotiriadis et al., 2018). The article discusses the reduction of maternal hypertension, lower cesarean deliveries, and less need for neonatal respiratory support (Sotiriadis et al., 2018). All these positive outcomes result from the induction of labor at thirty-nine weeks. These positive outcomes can increase the quality of care for both mother and baby during labor and delivery of an uncomplicated single fetus pregnancy (Sotiriadis et al., 2018).

### **Deficit/Conclusion**

This student does believe the authors have moderate evidence that supports the hypothesis that the induction of labor at thirty-nine weeks can result in a more optimal outcome for mother and baby. The implications of this article can result in a safer labor and delivery method. A

reduction in cesarean deliveries can result in better maternal outcomes. Lower maternal hypertension rates are optimal for mother and baby. A lower need for neonatal respiratory support results in healthier neonates with a proper respiratory system that does not need outside respiratory support.

**Induction of labor at thirty-nine weeks versus expecting labor till forty-one weeks:  
Randomized controlled trial on class one obese Egyptian women, with mode of delivery  
being a study endpoint**

This article compares the outcomes of induction of labor at thirty-nine weeks versus waiting until spontaneous labor or induction of labor at forty-one weeks (Samy & Safwat, 2019). This article is a quantitative study in Ain Shams Maternity Hospital in Egypt from 2016 to 2018 (Samy & Safwat, 2019). The authors of this article are M. Samy and Sarah Safwat (Samy & Safwat, 2019). The participants in this study must have a body mass index of thirty to thirty-four point nine, no medical disorders with pregnancy, and the pregnancy must be only one fetus (Samy & Safwat, 2019).

**Key Points**

To participate in this randomized controlled quantitative trial, one must have a full-term pregnancy with one single fetus, a body mass index of thirty to thirty-four point nine, and no medical disorders during the pregnancy (Samy & Safwat, 2019). The trial reports two hundred participants (Samy & Safwat, 2019). The tools used for this trial are the use of IBM SPSS statistics (Statistical Package for Social Sciences) software version 18.0, IBM Corp., Chicago, USA, 2009 (Samy & Safwat, 2019). The data concludes that labor induction at thirty-nine weeks

results in fewer cesarian sections with a p-value of 0.009, fewer maternal injuries with a p-value of 0.037, fewer postpartum hemorrhages with a p-value of 0.721, and fewer blood transfusions with a p-value of 0.621 (Samy & Safwat, 2019). The research data reports a higher incidence of non-assisted vaginal deliveries with a p-value of 0.034, a higher Apgar score at one minute and five minutes after birth with a p-value of 0.038 and 0.040, and a lower birth weight with a p-value of less than 0.001 (Samy & Safwat, 2019). The authors conclude that spontaneous labor past thirty-nine weeks does significantly cause a higher risk for a cesarean section for mothers with a body mass index of thirty to thirty-four point nine (Samy & Safwat, 2019). The authors support that more research should consider various body mass indexes of the pregnant mother and co-existing medical conditions (Samy & Safwat, 2019).

### **Assumptions**

With the data that the authors report, induction of labor at thirty-nine weeks can significantly lower the need for cesarean sections to deliver a baby (Samy & Safwat, 2019). A lower need for cesarean sections can help to lower the risk for adverse outcomes related to cesarean sections (Samy & Safwat, 2019). The data reports a decrease in maternal injury with induction of labor at thirty-nine weeks, which would cause an improvement in care for the pregnant mother (Samy & Safwat, 2019). Postpartum hemorrhage can be fatal, and the data suggest that induction of labor at thirty-nine weeks can lower the risk of a postpartum hemorrhage (Samy & Safwat, 2019). Induction of labor at thirty-nine weeks can lower the need for blood transfusions, improving care (Samy & Safwat, 2019).

### **Deficit/Conclusion**

This student believes that this article's impact on inducing labor at thirty-nine weeks will give those with a body mass index of thirty to thirty-four point nine a more optimal labor and delivery outcome (Samy & Safwat, 2019). Reducing the potential for possible fatal maternal outcomes is one of the highlights of this article, and this student does believe that the induction of labor at thirty-nine weeks will benefit the mother and baby (Samy & Safwat, 2019). If the medical field does not recognize this research, potential harm could occur, whereas if the research is recognized, a reduction of the potential harm can occur (Samy & Safwat, 2019). This student agrees with the authors that more research is necessary on maternal comorbidities and other degrees of obesity (Samy & Safwat, 2019).

**Hypertension in pregnancy and adverse outcomes among low-risk nulliparous women expectantly managed at or after thirty-nine weeks: A secondary analysis of a randomized controlled trial**

This article is written by: Bartal, M. F., Premkumar, A., Rice, M. M., Reddy, U. M., Tita, A. T. N., Silver, R. M., El-Sayed, Y. Y., Wapner, R. J., Rouse, D. J., Saade, G. R., Thorp, J. M., Costantine, M. M., Chien, E. K., Casey, B. M., Srinivas, S. K., Swamy, G. K., & Simhan, H. N. in the year 2021 (Bartal et al., 2021). One of this article's main topics is the presence of a hypertensive disorder at and after thirty-nine weeks of gestation (Bartal et al., 2021). Tracking when a hypertensive disorder occurs can dramatically change the outcomes for the pregnant mother and the baby (Bartal et al., 2021).

**Key Points**

The research method of this article is a secondary analysis of a randomized quantitative trial (Bartal et al., 2021). The population is maternal gestation delivery on or after thirty-nine weeks (Bartal et al., 2021). Two thousand seven hundred and eighteen women are eligible participants in this study (Bartal et al., 2021). The method for data collection is a multivariable analysis (Bartal et al., 2021). The data represents that at maternal gestation of thirty-nine weeks, about fourteen percent develop a hypertensive disorder, with one percent having severe features (Bartal et al., 2021). Those who develop a hypertensive disorder after thirty-nine weeks are eighty-four percent more likely to experience an adverse maternal outcome and thirty-two percent more likely to require a cesarean section as a mode of delivery at a p-value of less than 0.05 (Bartal et al., 2021). The authors report that maternal hypertensive disorders are more likely to develop an adverse maternal outcome (Bartal et al., 2021).

### **Assumptions**

This article can change the maternal outcomes specifically for those with maternal hypertensive disease. The maternal hypertensive disease can increase the risk for adverse maternal outcomes including possible fatal outcomes (Bartal et al., 2021). The risk for these adverse maternal outcomes increases after thirty-nine weeks of gestation and the need for a cesarean section as a mode of delivery (Bartal et al., 2021). Knowing this information, close maternal observation, or induction of labor at thirty-nine weeks can reduce the adverse effects of the maternal hypertensive disease (Bartal et al., 2021).

### **Deficit/Conclusion**

This student does accept the information from the research due to the number of participants and the research method. This article can impact the medical field to show the adverse outcomes of maternal hypertensive disease and the need for close observation or induction of labor at thirty-nine weeks. The refusal of this information can affect all maternal hypertensive patients and their baby due to an increase of possible adverse outcomes that is avoidable.

### **Conclusion**

From the research of all three articles, the induction of labor at thirty-nine weeks should be a standard practice in the medical field. All three articles support the idea that the induction of labor at thirty-nine weeks will reduce adverse outcomes such as lowering the need for cesarean section, postpartum hemorrhage, and maternal hypertension (Bartal et al., 2021; Samy & Safwat, 2019; Sotiriadis et al., 2018). Waiting past thirty-nine weeks of gestation places the patient and the fetus at a greater risk for adverse outcomes that can be avoidable with early labor induction at thirty-nine weeks.

The patient outcome can improve drastically with the induction of labor at thirty-nine weeks. For example, waiting until spontaneous labor or induction of labor past thirty-nine weeks increases the risk of postpartum hemorrhage (Samy & Safwat, 2019). Postpartum hemorrhage can be fatal to the mother. Inducing labor at thirty-nine weeks gestation reduces this fatal risk.

The effect of these articles in the nursing practice will result in the closer observation of maternal hypertension and a higher incidence of labor induction monitoring. The utilization of these articles will reduce the number of cesarean sections in the nursing practice (Samy & Safwat, 2019). Cesarean sections require much time to prepare for surgery and time away from other patients while in surgery. Reducing cesarean sections can leave more time for nurses to observe all patients on monitors and physically observe each patient.

Inducing labor at thirty-nine weeks is an excellent example of utilizing quality improvement. Labor induction at thirty-nine weeks will improve the patient's outcomes, the nursing practice, and the whole medical field by reducing the adverse effects of waiting until after thirty-nine weeks of gestation for labor to occur. Establishing the protocol of inducing labor at thirty-nine weeks to a single fetus is an example of quality improvement because of these articles' benefits.

Healthcare will improve with the implication of inducing labor at thirty-nine weeks gestation. Adverse maternal outcomes will be lower, and even neonatal outcomes can improve by a lower need for respiratory support (Sotiriadis et al., 2018). The information supports the overall positive outcomes of the induction of labor at thirty-nine weeks of a single fetus over the adverse outcomes. Labor induction at thirty-nine weeks will improve healthcare overall with this implication.

## References

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