

Title:

Effectiveness of Using the Peanut Ball to Shorten the First- and Second-Stage of Labor

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References:

Boyle, A., Reddy, U., Candy, H., Huang, C., Diggers, R., & Laughon, S. (2013, July). Primary cesarean delivery in the United States. *Obstetrics and Gynecology*, 122(1), 33-40. <http://dx.doi.org/10.1097/AOG.0b013e3182952242>

The American Congress of Obstetricians and Gynecologists. (2015). <http://www.acog.org/Resources-And-Publications/Obstetric-Care-Consensus-Series/Safe-Prevention-of-the-Primary-Cesarean-Delivery>

Tussy, C., Botsios, E., Gerkin, R., Richard, D., Kelly, L., Gamaz, J., & Mensik, J. (2015). Reducing length of labor and cesarean surgery rate using a peanut ball for women laboring with an epidural. *The Journal of Perinatal Education*, 24(1), 16-24. <http://dx.doi.org/10.1891/1058-1243.24.1.16>

Zwelling, E. (2010, March/April). Overcoming the Challenges: Maternal Movement and Positioning to Facilitate Labor Progress. *The American Journal of Maternal/Child Nursing*

Abstract Summary:

This study will show how the using the peanut ball, may decrease the length of the first and second stage of labor. Based on prior studies frequent repositioning, along with the use of the peanut ball in various positions can facilitate the labor progression. I

Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
The learner will be able determine if the use of the peanut ball shortens the first and second stage of labor	The statistical data will either prove or disprove the use of the peanut ball will shorten the length of time a laboring woman takes to complete the first and second stage of labor.
The learner will be able to determine if frequent repositioning plays a role in reducing the length of time it takes a laboring woman to complete stage one and stage two.	The statistical data will determine if frequent movement with the ball verses frequent movement without the peanut ball has any impact on the length of time it takes to complete stage one and stage two of labor.

The learner will be able to determine if the use of the peanut ball rotates the fetus.

The intent is that patients whose fetus is in direct posterior position will rotate into an anterior presentation.

Abstract Text:

The purpose of the proposed research study is to show how using a peanut ball may decrease the length of the first and second stage of labor. Prior studies have proven immobility decreases the fetus' ability to flex, engage into the pelvis, rotate into position and descend (Zwelling, 2010). The peanut ball simulates a squatting or sitting position abducting the patient's inner thighs to widen the pelvis. The research question to be addressed is "In laboring primigravida women, will the use of the peanut ball reduce the length of the first and second stage of labor?" A randomized controlled study will be conducted to determine if using the peanut ball can shorten the length of the first and second stages of labor. The study will consist of 200 laboring, nulliparous women using the peanut ball (intervention group) versus 200 laboring, nulliparous women (control group) who will have no intervention. The anticipated outcome is that the peanut ball group will have a significant difference in both the time it takes to progress from the first to second stage of labor as well as the length of time it takes to complete the second stage of labor. This non-medical, nursing intervention will open the pelvic opening, to allow for an easier descent of the fetus, thus providing a greater chance of a vaginal delivery.

In 2011, one in three women in the United States gave birth by cesarean delivery (The American Congress of Obstetricians and Gynecologists, 2015). During the laboring process, it is a common occurrence for women to remain immobile (Zwelling, 2010). Obstetrical interventions such as, fetal monitoring, oxytocin inductions, and epidural anesthesia can interfere with a patient's mobility and position changes (Zwelling, 2010). When laboring mothers remain immobile, it decreases the fetus' ability to flex, engage into the pelvis, rotate into position and descend (Zwelling, 2010). Studies have found that women who were positioned in upright positions as compared to women who remained in flat or recumbent positions benefited with a shorter first stage of labor by an average of 66.48 minutes (Zwelling, 2010).

One of the most common reasons for a cesarean section is "arrest of labor" also known as failure to progress or midpelvic arrest. It is estimated that between 2002 and 2008, 10% of first-time mothers had cesarean sections for failure to progress (Boyle, Reddy et al. 2013). Of that 10 %, 40% had cesarean sections before they had even reached 5 cm dilation (Boyle, Reddy et al. 2013). Safely reducing the rate of primary cesarean sections will require different approaches (The American Congress of Obstetricians and Gynecologists, 2015). The American Congress of Obstetricians and Gynecologists (ACOG) suggests increasing a women's access to nonmedical interventions during labor (The American Congress of Obstetricians and Gynecologists, 2015).

Most birthing balls can facilitate a more normal labor progression for ambulatory laboring women. However, when a patient is immobile, due to medical circumstances, initiating the use of a peanut ball might promote positive labor outcomes as well as hopefully reduce the duration of the delivery process. This double birth ball, connected in the middle mimicking a large peanut, is low-risk and a low-cost nursing intervention (Tussey et al., 2015). A randomized, controlled study was conducted to determine whether the use of a "peanut ball" decreased the length of labor and increased the rate of vaginal birth (Tussey et al., 2015). Using the peanut ball promotes spinal flexion, thus increasing the utero-spinal angle (Tussey et al., 2015). This widening of the pelvic diameter subsequently assists in facilitating occiput posterior rotation to a more favorable position for delivery (Tussey et al., 2015). Since there is a lack of evidence-based research on this new intervention the use of the peanut ball affirms the need for further research.