

5-6-2015

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Perceptions of Labor and Delivery Clinicians on Non-Pharmacological Methods for Pain Relief
During Labor

A Senior Honors Thesis

Submitted in Partial Fulfillment of the Requirements
for Graduation in the Honors College

By

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May 6, 2016

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example of an Honors senior thesis project.*

Chapter I: Introduction

There has been a movement from natural birthing to medical birthing with the development of modern technology. A natural childbirth is typically considered to be free of pharmacological intervention, where as a medicalized birth often uses pharmacological methods for pain relief and assisted delivery techniques. This change has resulted in medical intervention during labor being at an all time high in the United States. Pharmacological methods of pain relief are often one of the first interventions that the health care team uses. In order to labor with minimal pharmacological interventions for pain relief, or pain medications, mothers need continuous support and complimentary or alternative medicine (CAM) to help them cope with the pain. Unfortunately, there is a stigma around “natural” birthing, or birthing without medical interventions, that causes people to associate it with home births. In order to increase the number of “natural births” occurring in the United States, it is crucial to find a way to promote the use of these alternative methods in a setting where expectant mothers can feel safe, like the hospital setting.

The goal of this study is to describe the perceptions of labor and delivery clinicians regarding non-pharmacological methods for pain relief during labor. Although there are several enticing areas of study pertaining to this topic, this study looks specifically at the question: “What are the barriers to the use of non-pharmacological methods for pain relief during labor in the hospital setting?” Without knowledge of what prevents the use of these methods, it is impossible to overcome the barriers and enact change. Also, many people are unaware of the multitude of options for non-pharmacological pain relief during labor. Recognizing the barriers is the first step in addressing the question, “How can hospitals increase the use of non-pharmacological pain relief methods during labor?” This study will further the understanding of

current methods used for pain relief during labor, explore the incidence of and attitude towards non-pharmacological pain intervention use and perceived facilitators and barriers to the use of these methods. Ultimately, the research findings will be used to propose ways to increase women's access to a more natural childbirth in the hospital setting.

For the purposes of this study, "labor and delivery clinicians" will include midwives, providers and nurses. Non-pharmacological methods for pain relief during labor include supportive measures such as hydrotherapy or the use of water for pain relief, the use of a birthing ball, massage, therapeutic touch, music, aromatherapy, doula support, heat and cold application, visualization and frequent position changes. These are just a few examples of the many techniques available to laboring mothers.

This descriptive qualitative study was conducted through individual, semi-structured interviews with three different clinicians. All clinicians who participated in the study work with laboring mothers as nurses, midwives or obstetricians. The questions asked addressed the current methods for pain relief being used where the clinicians worked, frequency of use of alternative methods for pain relief, what specific methods they see being used, their personal beliefs on these methods and why they think these methods are not used more often. This data was analyzed and themes were revealed regarding how often these methods are used, what clinicians believe is preventing their use and how the clinician's role in labor affects their ability to use alternative methods.

Through studies like this, ways can be found to discuss and implement as natural of a birth for the mother as possible while reserving more medical interventions for high-risk deliveries and emergency situations. This is an important area of study in nursing because overcoming the barriers to natural childbirth in the hospital setting may require policy change,

increased insurance coverage for a number of the techniques, enhanced prenatal education on the choices available to laboring women and a shift in the culture of many hospitals.

Chapter II: Review of Literature

Introduction to Labor Pain

Labor is a dynamic process that most women go through during childbirth. As a woman's labor progresses and changes, so does the pain that accompanies it. The perception of pain is influenced by a variety of factors including the woman's culture, her individual ability to cope with pain, her body, her surroundings and her support systems. In order to adequately assist laboring mothers who are coping with labor pain so that they can achieve the most gratifying birthing experience, health care workers need to thoroughly understand labor pain.

There are several factors that influence a woman's perception of labor pain. A woman's culture, ethnicity, level of education, preparation for childbirth, previous pain experiences and ability to cope all affect her ability to manage the pain of labor (Zwelling, Johnson, & Allen, 2006). It is impossible to change a woman's culture, ethnicity or previous experiences with pain, but health care workers can educate and prepare laboring mothers to cope with the pain. In Japan, childbirth is considered a woman's number one contribution to society, so feeling the pain and successfully coping with it is considered admirable (Behruzi, Hatem, Goulet, & Fraser, 2014, p. 14). In the United States, on the other hand, women often want to feel the least amount of pain possible. Socio-cultural views like these ultimately affect the definition of "coping" with labor as well as the methods used to cope. Non-pharmacological methods for pain relief do not remove the pain entirely, but helps to empower laboring mothers to cope with the pain they are experiencing in a more natural way.

In order to understand how to reduce labor pain non-pharmacologically, it is imperative to know how pain physiologically occurs. In the first stage of labor, pain is a result of the lower uterus distending, the cervix stretching during dilation and the baby's descent causing pressure on nerves and surrounding tissues (Zwelling et al., 2006, p. 365). The pain of the uterine contractions spreads to the stomach, lower back, hips, thighs and gluteal muscles. As the uterus contracts, ischemia also causes pain (Almushait & Ghani, 2014, p. 5). During the second stage of labor, the vagina distends and the tissues around the pelvic floor and perineum stretch (Zwelling et al., 2006, p. 365). The pain of labor is also affected by the baby's position, how quickly it descends into the birth canal, the position of the mother, how tired she is, and the length and frequency of the contractions. The laboring mother and her support people need to be educated on what is happening in her body that is causing pain so that she can cope better with it. Understanding exactly what the pain is from can also help health care workers to choose an appropriate method of relieving the pain non-pharmacologically.

A woman's perception of pain can be affected by a woman's emotional state as well. Throughout labor, a woman often becomes anxious which results in her body secreting more catecholamines, also known as fight or flight hormones. Catecholamine impairs the secretion of the hormone that helps with uterine contractions, oxytocin, while increasing pain perception (Zwelling et al., 2006, p. 366). Therefore, as the mother becomes more stressed her pain increases and her contractions become weaker. Any variation from the mother's birth plan or unexpected occurrences during labor will place more stress on the mother. This is why it is important to prenatally prepare the mother to adapt as her labor evolves so that she knows what to expect and can apply methods for pain relief accordingly. The light, noise, room temperature, equipment and atmosphere of the birthing facility all affect pain perception, as well. Creating a

soothing, home-like environment will help to relax the mother, thus reducing pain. Removing as much stress from the birthing process as possible will decrease the mother's perception of pain and encourage contractions.

Labor pain is as dynamic as labor itself, and can change frequently. It is important to discuss the mother's birthing preferences, goals and concerns often because they may change as her pain level progresses. No single technique will help all mothers, or even the same mother throughout labor, which is why each mother needs an individualized plan that is re-evaluated as her labor progresses (Brown, Douglas, & Flood, 2001, p. 6). In order to prepare women for their changing needs and desires, it is important to educate them on the several options available so they can make stress free decisions as their pain transforms.

Methods for Pain Relief

There are two main classifications of pain relief methods: pharmacological and non-pharmacological. The goal of non-pharmacological methods is to increase the ability of the woman to cope with pain, where as the goal of pharmacological methods for pain relief is to relieve labor pain (Jones, et al., 2013, p. 1). Some examples of current pharmacological methods used frequently in labor include inhaled nitrous oxide and oxygen, non-opioid drugs or sedatives, epidural anesthesia (EA), combined spinal-epidurals, local anesthetic nerve blocks and parenteral opioids. In general, pharmacological methods tend to manage pain effectively but can have adverse effects on the mother and on delivery outcomes. Non-pharmacological methods, on the other hand, have been shown to improve the management of pain with few negative effects, but minimal research has been conducted on these methods to prove their efficacy. Labor and delivery clinicians may be less educated on non-pharmacological methods for pain relief during

labor, which results in an overall poor understanding of its benefits. This gap in literature is why it is important to research the role of non-pharmacological methods for pain relief in labor.

The Current Birthing Process

The birthing process has evolved considerably over time. The cesarean section rate rose 60% between 1996 to 32.9% in 2009, but are currently remaining steady around 32.7% in 2013 (Hamilton, Martin, Osterman, & Curtin, 2014, p. 7). This change over a thirteen year time span is drastic and shows how childbirth has devolved from a natural, healthy aspect of womanhood, into a medicalized process that requires intervention. Birth plans are often disregarded when mothers enter the hospital setting and surrender to the medical version of childbirth. Too often mothers are being treated with increased interventions and epidurals instead of being coached and empowered to cope with the pain. In order to reverse this medicalized child birth trend, the current issues need to be clearly identified.

As childbirth has shifted from the home to the hospital setting, the perspective of childbirth in the United States (U.S.) has also changed. In many countries, pregnancy is equated with a pathology that needs to be fixed by doctors instead of a natural part of being a woman (Behruzi et al., 2010). Pregnancy is not an illness, but rather a normal, natural and healthy time in a woman's life. In order to decrease this stigma around childbirth, healthcare workers need to return control to laboring mothers, empower them and emphasize that childbirth is not a sickness that needs to be medically managed. Despite Japan's more natural approach to childbirth, their low infant mortality rate is competitively rated with the U.S. and is a mere 2.7 per 1000 live births (Behruzi et al., 2010). Japan was even listed as the "best place to give birth in 2009 (Behruzi et al., 2010, p. 3)." These statistics show that a medicalized birth is not the only way to

have a safe birth. The larger question here is how can the U.S. revert back to a primarily natural birthing process and convey that women are capable of delivering their children.

Although many components have contributed to this shift from natural childbirth to medical childbirth, no one factor can be held solely responsible. These changes can be summarized as such: “As the place of birth shifted from home to hospital during the first half of the 20th century, numerous changes in care such as the use of narcotics or anesthesia, high patient-to-nurse ratios, connections to intravenous lines, electronic monitors, and other devices, made it safer or more convenient if the woman remained in bed (Simkin & O'hara, 2002, p. S148).” Although these changes over time are not directly related to the birth rate statistics, they do show a striking transformation in the birthing process itself. These changes were not entirely based on the evidence of best practices. The reality is that there is often not enough staff, a growing rate of cesarean sections and inductions, a higher litigation risk, less vaginal births after cesareans, an “unprecedented” amount of elective cesarean sections and frequently “under-empowered” labor nurses (Zwelling et al., 2006, p. 365). Instead of focusing on the laboring mother and her family, care often revolves around speedy deliveries to maximize the use of limited staff members and the rapid turnover of hospital beds. As the number of cesarean sections increases, so does the number of repeat cesarean sections. The more repeat cesarean sections a woman has, the higher risk she has of intraoperative complications, placental attachment and risk of uterine rupture (Eriksen, Nohr, & Kjcergaard, 2011). Epidural use and cesarean delivery rates cannot increase endlessly without negative consequences.

Another rate that is increasing is the number of mothers receiving epidural anesthesia for childbirth. In the United Kingdom 19% of mothers get EAs which is minimal compared to the 61% in the United States and 75% in France (Behruzi et al., 2010, p. 11). This change in pain

control methods reflects the shift towards a more medicalized childbirth process. In a study in Japan, every obstetrician interviewed agreed that EA should only be used if the mother has extreme anxiety or high blood pressure. In the United States, on the other hand, EA is used for any mother that requests it unless it is contraindicated. Having more strict qualifications for EA use would greatly reduce the incidence of negative side effects as well as prevent the cascade of medical interventions that results from their use.

Although epidurals greatly reduce labor pain, they can have negative side effects that many women are unaware of. They alter the body's ability to push the newborn down the birth canal by inhibiting skeletal muscles which ultimately slows down labor progression and lengthens or stops the 2nd stage of labor entirely (Alexander, Lucas, Ramin, McIntire, & Leveno, 1998). The slowed dilation and lengthened labor time has been found to increase the rate of operative deliveries and result in an increased need for oxytocin to speed up contractions (Alexander et al., 1998). Ultimately, the laboring mother will need more oxytocin overall to achieve the same rate of cervical dilation than those who do not receive an epidural. This results in the woman needing more interventions to obtain the same amount of progress that a woman with less interventions would achieve naturally, and shows how medicalized childbirth runs on the hospital policy schedule instead of revolving around the women's physiological clock. Epidurals can also result in hypotension and decrease the fetal heart rate, requiring continuous monitoring of the mother and baby. Women who receive EA also have lower levels of natural oxytocin in their bodies after delivery which results in an increased risk of post partum hemorrhage. This evidence reinforces how imperative it is to look at a woman's natural response to childbirth and how these medical interventions are affecting these responses.

There are a number of indications that suggest the need for medical intervention after an epidural. These include bradycardia, acidosis, dystocia, and lack of fetal head descent due to poor uterine contractions (Sindik, et al., 2012). Many of these issues can be traced to ineffective uterine contractions and slowed labor. Without EA use, the woman's uterine contractions pair with uterine expulsion mechanisms to descend and deliver the baby. When this physiological reflex is "abandoned" during the late phase of labor through EA use, the EA itself inhibits what would otherwise be a natural and self-limiting birthing process (Sindik et al., 2010, p. 502). One study stated that there is up to a 4 to 6 times increase in cesarean sections in women with EA use, and even very low risk mothers have a much higher risk for cesarean sections and vacuum extractions (Eriksen et al., 2011). It is information like this that needs to be explicitly explained to laboring mothers when obtaining informed consent. Most women only understand that epidurals are supposed to take away the pain, and that is the extent of their knowledge on the topic.

One suggestion is that the expectations for cervical and labor progression should be altered to reflect the slowed labor that results from receiving an epidural (Alexander et al., 1998). By updating the policy that defines "ineffective labor" based on current evidence related to EA use, more unnecessary interventions can be avoided. Based on this evidence, mothers should be thoroughly educated on how EA use can slow down and lengthen labor. Another suggestion is to stop the EA around 7 or 9 cm in dilation to allow the mother's "inactive reflexes" to re-start before she has to push (Sindik et al., 2010, p. 502). Stopping the EA at this time would decrease delays in labor as well as the risk for other medical interventions and operative deliveries. Much has changed about the process of childbirth, and steps need to be taken to alter the present

practices so that they reflect current evidence and provide safe laboring experiences where the mother can be in control of her own labor.

The birth plan that women have for their childbirth experience is often not reflected in the care that they receive. For example, Women often want a comfortable room temperature, a quiet atmosphere and relaxing lighting in their labor rooms. Instead of these conditions which could be achieved in a home birth setting, women are often forced into undesired birthing positions, have a lack of privacy and feel that health care workers are impatient with them (Almushait & Ghani, 2014). When women do plan for a natural birthing experience, staff might believe that the women are not in enough pain yet and will most likely give in and get medication later on. To prevent this negative perception, it is important for staff to let women make their own choices, advocate for the mother's voice and try to minimize the restrictions on the mother due to medical interventions and hospital policy. The mother's preferences can change throughout labor and it is key to recognize and support that.

Healthcare workers may believe that a painless labor is the main way to make sure women are satisfied with their birthing experiences and that pharmacological pain relief is the ultimate way of doing this. In reality, women's pain can be increased by constant medical interventions and by having their emotional needs ignored (Almushait & Ghani, 2014). For reasons like these, healthcare workers and laboring mothers need to overcome their communication barriers and focus on the mother's needs and desires. Women's perception of the labor experience may is also influenced by culture and woman may think that the doctor is in charge and that they have no choices in the process. It is important to consider all of these aspects in order to ensure adequate pain relief and patient satisfaction during childbirth.

Overview of Non-pharmacological pain management

Non-pharmacological pain management can be divided into three main types: cognitive or behavioral, physical or cutaneous, and environmental and emotional (Bicek, 2004, p. 9). For example, distraction, imagery, relaxation and breathing techniques work at the cognitive level, or level of the mind. Heat and cold application, vibration, massage, position changes and TENS work at the cutaneous level. Touch, reassurance and changing the environment to please the patient intervene at the emotional level. According to the study of psychology and what is known about dealing with pain, these alternative methods need to be introduced antenatally, or prenatally (Escott, Slade, & Spiby, 2009). Women need to identify their own coping strategies, practice them and plan how they will apply the various methods during labor as their needs change. This prevents the mother from having to identify her coping methods when she is battling against labor pain, and instead allows her to face them already prepared.

Aside from preparing antenatally for labor pain, having continuous labor support makes a paramount difference in the coping ability of mothers and in labor outcomes. Mothers who have continuous labor support have been shown to be 28% less likely to use or want analgesia, have less oxytocin augmentations, 41% less operative assisted deliveries, 26% less cesarean sections, better APGAR scores, overall shorter labors and are 33% less dissatisfied with their birthing experience (Simkin & O'hara, 2002, p. S133; Zwelling et al., 2006, p. 365). This evidence shows that women are more likely to think through the pain and explore their options in detail when they have a doula, instead of blindly following the suggestions of health care worker. Having continuous labor support from a trained support person decreases pain, improves outcomes and is better than having support solely from a loved one because family members and friends have less experience and are less objective than trained support people like doulas (Simkin & O'hara, 2002, p. S1333). Having a single dedicated support person throughout labor provides constant

one on one attention for the mother which decreases the negative impact of staff switching shifts and taking care of more than one laboring mother at once. Having a doula whose sole responsibility is to console the mother and help her to cope is more beneficial than having support only from a nurse who has medical priorities in addition to supportive roles (Simkin & O'hara, 2002, p. S137). It is important that physicians, midwives, nurses, administrators and insurance companies value and support the use of continuous labor support to increase the use of alternative methods for pain relief during labor, to decrease negative outcomes and to enhance patient satisfaction.

One of the most widely known methods to reduce labor pain is through the use of a bath tub. The warm water increases endorphins, relaxing muscles to reduce tension, increases oxygenation through improved circulation, decreases edema by causing diuresis, and lowers blood pressure (Zwelling et al., 2006, p. 367). The bath also increases buoyancy allowing the baby to rotate into the correct position, and increases labor progression resulting in a faster labor. Ultimately this intervention decreases the use of pain medications, EA, instrumental assisted deliveries, perineal trauma, and episiotomies while increasing patient satisfaction. There is no evidence to suggest that baths during labor increases chorioamnionitis, postpartum endometritis, neonatal infections or a need for antibiotics. Although, decreasing the number of vaginal exams and ensuring thorough cleaning of the baths between patients will prevent infection. Using a bath to relieve pain has also been shown to be most effective if the water temperature is at body temperature or less and is used after 5 cm of dilation (Simkin & O'hara, 2002, p. S132). Use of this method is an excellent example on an intervention that places evidence based practice as a true priority while increasing cost effectiveness.

Another highly effective method is using intradermal water blocks (IDWB). This method significantly decreases back pain for 45 minutes to two hours, but causes discomfort for 20 to 30 seconds as sterile water is placed intradermally, or under the skin, in four spots on the back (Simkin & O'hara, 2002, pp. S154-5). One way to decrease the pain during application is to have two staff members give injections at the same time to reduce the administration time and pain. The pros of using IDWB are that it is relatively easy to do, inexpensive, there are no known risks, it works well for severe back pain and it delays or avoids EA use entirely (Simkin & O'hara, 2002, p. S155). The only negative aspect of IDWB use is the variation of satisfaction from mothers, as some believe the administration to be painful. This is where humanization of care is vital and the staff must consider the mother's desires first and individualize care for each patient.

Massage is also a well known method of natural pain relief. Touch is used worldwide to support positioning, decrease muscle spasms, relieve labor pain and to soothe the laboring woman as it reduces anxiety and improves labor outcomes (Simkin & O'hara, 2002, p. S151). At the physiological level, this intervention increases endorphins, stimulates nerves which decreases pain, increases circulation thus increasing oxygenation to tissues and toxin release through the lymph tissue (Zwelling et al., 2006, p. 367). Evidence suggests those mothers who use massage to cope with labor pain may have shorter labors, decreased postpartum depression and shorter hospital stays (Brown, Douglas, & Flood, 2001, p. 2). This simple intervention can be used when talking to the mother, recording her history and while observing contractions, making it a convenient way to reduce labor pain and increase patient satisfaction. There are zero risks for the mother and the baby, so it is an excellent intervention to decrease labor pain. Having a massage therapist on every labor and delivery unit or having all nurses trained specifically in

massage would save money in the long run and increase patient satisfaction. As always, when deciding on an intervention the woman's response to the intervention needs to be a priority when planning care.

A simple addition to any labor room is a birthing ball, which helps the mother to stay in active motion so the baby can rotate into position in the pelvis, provides a comfortable position for the laboring mother, and stimulates mechanoreceptors and joint receptors to decrease pain (Zwelling et al., 2006, p. 367). Using a birthing ball can stimulate labor progression by helping the baby to navigate through the birthing canal and reduce pain while encouraging maternal movement. Policy needs to be developed on the storage, cleaning and use of each birthing ball and there needs to be at least 1 ball for every three birthing rooms.

Another way to keep the baby moving into correct position and to help the mother get comfortable is frequent position changes. It has been shown that upright positions are ideal for stage I of labor, while squatting helps to speed labor and increase comfort in Stage II (Simkin & O'hara, 2002, p. S132). Upright positions result in more frequent, intense contractions leading to rapid dilation compared to the commonly used recumbent positions. It is difficult to study which positions are the best for birthing, though. Women can't be forced to stay strictly in a specific position for a control group and it is difficult to study spontaneous movement because each person will pick what is comfortable for them, so they cannot be placed in scientific study groups. Freedom of movement is also restricted by lack of walking space in crowded rooms, lack of encouragement, being connected to the environment by cords and devices, and having medication that requires the women stay in bed. Women have been birthing babies in upright, natural, gravity-supported positions for years, and have only recently been confined to the bed by pharmacological interventions. Women will often move if they are allowed to, but are more

likely to if they are encouraged by staff to walk around or get in an upright position, and have sufficient space and furniture to “walk, sit, bathe, kneel, rock, sway, stand, lean, squat, and lie down (Simkin & O'hara, 2002, pp. S148-9).” Health care workers, educated loved ones and trained labor support people can all assist the mother by encouraging her to keep moving without any additional equipment or tools.

The most commonly known natural method of coping with pain is breathing. It is the most used intervention because mothers can do it without staff accompaniment, it does not require much practice and it is easy to do (Almushait & Ghani, 2014, p. 11). Due to the inability of nurses to stay with laboring mothers constantly, it is vital for mothers to educate themselves prenatally on various interventions they can perform alone so that they having coping methods to rely on at all times. On the other hand, health care workers should examine what other alternative methods fit these qualifications so that more interventions can be taught at childbirth classes for mothers to perform independently.

Music is often overlooked, but still affects the mothers emotionally in a positive way to help relieve pain. Music can decrease sensation and pain from active labor for up to 3 hours, as it improves the mother's concentration, relaxation, distracts her from pain and allows her to focus on her breathing (Zwelling et al., 2006, p. 367). This is another intervention that can be used without the help of a nurse, and the mother can even listen to certain music at home prenatally to help practice focusing on her breathing.

A final alternative way to relieve pain is by using essential oils and aromatherapy. Essential oils are lipid soluble and can be absorbed quickly into the skin or inhaled. They can be put into baths, used during massages, put onto warm compresses or spread through the air in diffusers (Zwelling et al., 2006, p. 366). The mother can pick individual blends that have various

positive effects on the body and mind to individualize care. Labor and delivery units need to create policies that include safe oils, how to use them, routes and concentrations. Nurses need to be educated on their use so that they can assist mothers with this ancient method for pain relief. There is an enormous amount of alternative ways to relieve pain and although only a few were reviewed here, it is important to note that many of these methods can be combined to achieve optimal pain relief, and are relatively inexpensive to use.

Improving the Labor Process

The first step in returning control to the mother during labor is to provide humanized care to them and their loved ones. A humanized childbirth does not have one single definition, but is a dynamic process that is specialized to fit the needs of each person and family (Behruzi et al., 2010). This process begins before the birth and continues after the baby is born. Healthcare workers need to listen to the desires of the family and respond to them on an individual basis. To achieve this, medical interventions do not need to be avoided entirely, but instead need to be “married” to humanized care in all aspects of care (Behruzi et al., 2010, p. 6). There is a time and place for medical interventions, but these boundaries need to be redrawn so that humanized care can occur 100 percent of the time, not only with low-risk pregnancies. It is especially important that humanized care is used during emergency situations, as well. Medical interventions, on the other hand, should be used only when they are fully necessary.

A primary component of humanized care is continual, open communication between staff and patients. According to a study that assessed women’s perceptions of the care they received, the nurses’ ability to comfort and soothe them was more important to the women than the nurse’s technical skills (Almushait & Ghani, 2014). The women in this study noted that the nurses did not spend enough time with them during the first stage of labor, and were too preoccupied with

charting, other patients and shift changes to form a meaningful and supportive connection with the mothers (Almushait & Ghani, 2014, p.11). Although technical skills are vital to nursing, interpersonal communication needs to be emphasized to boost client satisfaction. If the nurse to patient ratio were lower, there would be less stress on the nurses and patients resulting in an enhanced quality of care.

Two major barriers to humanized care is insurance company coverage and hospital policies that do not allow for individualized care. In Japan, a woman stays in the hospital up to 7 days after a vaginal birth and up to 14 days after a cesarean section (Behruzi et al., 2010, p. 11). This lengthened stay time is a major facilitator of humanized care, but is near impossible in the United States for insurance reasons. Time and money as a major focus of healthcare is a barrier to providing positive and natural birthing experiences in the United States.

Using non-pharmacological methods instead of medications and medical interventions to assist with labor pain is a major way to work towards humanized birthing experiences. These nonpharmacological methods for pain relief are also known as natural methods, alternative methods or CAM. Many alternative methods are effective, safe and liked by most women, but are still regularly underused or even unavailable at most birthing locations in the United States (Simkin & O'hara, 2002, p. S156). These methods can be used alone or combined with other natural methods for a better total effect than any single pharmacological method. Even if the alternative methods are used alongside pharmacological methods to decrease the side effects or dosage used, it will still decrease the overall negative side effects for the mother and the baby. The benefits of nonpharmacological interventions is that there are almost no side effects, they increase the patient's sense of control, they are cost effective and they help to form a trusting relationship between the patient and the staff (Almushait & Ghani, 2014). Any method that has

no side effects and is cost effective should be considered a priority to use when relieving pain. Approximately 37% of people already use alternative methods for pain relief in their daily lives (Zwelling et al., 2006, p. 364). This shows that it is not an entirely new concept to the general population, but healthcare workers need to work to increase the accessibility to these methods in the hospital so that it can become the norm instead of the exception.

Despite the vast number of alternative therapies available for pain relief, only a minority of them have actually been studied. For instance, out of the many methods used to reduce back pain during labor, such as frequent position changes and movement during labor, transcutaneous electrical nerve stimulation (TENS), hot and cold compresses, massage and intradermal water blocking (IDWB), only TENS and IDWB have had controlled studies conducted on their effectiveness (Simkin & O'hara, 2002, p. S154). Due to the lack of scientific evidence on their efficacy, many CAM go underused. This shows a contrast with the frequent use of pharmacological interventions despite the evidence related to the negative effects of their use. Even though several CAM have been studied to some degree, only four methods are regularly taught in birthing classes: controlled breathing, relaxation, position changes and massage (Escott et al., 2009, p. 618). The reasons why these four methods are used over other alternative methods needs to be examined so that changes can be put in place to increase the availability of other alternative methods of pain relief to women. For some reason these methods are being emphasized over others, and the answers may lie in current education practices, hospital policies or even the childbirth class teaching plans. The systematic reviews that have been conducted show that continuous labor support, touch and massage, movement and position, IDWB and baths during labor have all been shown to decrease pain, increase the mother's satisfaction and improve outcomes (Simkin & O'hara, 2002, p. S131). Despite these results, these methods are

still not widely used or studied in the USA. This evidence reveals a gap in literature and in practice due to underuse of alternative methods for pain relief.

Facilitators

One broad component of humanized care is simply incorporating non-pharmacological methods for pain relief during labor (Behruzi et al., 2010, p. 11). Three main goals need to be worked towards simultaneously to achieve this goal, though: decreasing the rate of births considered over-medicated, empowering women, and using evidence based practice.

Empowering women begins in the antepartum period. When women feel empowered their confidence grows and they perceive less pain and use less pharmacological medications during labor (Brown et al., 2001, p. 7). This should be one of the primary focuses of health care workers, to instill confidence in mother before and during labor, regardless of what specific pain relief methods are used. Building a mother's confidence starts with prenatal education and continues throughout her plan of care.

Caregivers need to be trained in the psychological aspects of coping with pain and be able to implement coping techniques while supporting women (Escott et al., 2009, p. 620). This type of support will allow the women to feel comfortable enough to attempt alternative methods for relieving pain.

Another way to return control to the mother is by allowing her to control her environment. This change can be implemented at the provider or clinician level. Childbirth is a natural phenomenon that requires a multidisciplinary approach in the hospital setting. Although collaboration is good, having an attending physician, a fellow, a medical school student, a nurse, a nursing student, an anesthesiologist and family members all in the room of a laboring mother at once can be overwhelming. Many women also complain of being mostly alone during their labor

and frightened by the constant appearance of numerous unknown staff members (Almushait & Ghani, 2014). To decrease these feelings on the mother's part, continuous support during labor and mindfulness about who enters the room needs to be at the forefront of care. Instead of asking once if the mother minds if students come in, the staff can introduce additional students or staff individually and ask if they can enter the room every time a new person arrives. Labor is an ever-changing process and the desires of the mother will evolve throughout her labor. Frequently asking the mother's permission before entering the room returns control to the mother and helps to prevent quick overcrowding and the development of an overwhelming atmosphere.

In order to implement these changes and reverse the negative turn that the process of childbirth has taken in the US, hospitals and the health care system need to implement a plan for change. One case study looked at how to implement change in one hospital, and the process was simplified into the following steps:

...Advocating for change, building a base of support with administration, establishing a team to plan change, educating key people to share the vision, sending champions to conferences, meeting to plan how change would be implemented, using all available resources, leveraging the energy of the group, giving each team member ownership in the process, and seeking input from the staff and committee for continuous process improvement. (Zwelling et al., 2006, p. 368)

This is a strong example of the steps that need to be taken to switch to CAM in the hospital setting.

Barriers

In order to revert back to predominantly natural childbirth techniques, the barriers to the use of non-pharmacological interventions must first be indentified so that they may be overcome. These barriers can be grouped into three categories: patient related barriers, clinician related barriers and barriers within the health care system as a whole.

In one study, the most prevalently perceived barriers to using non-pharmacological methods for pain relief during labor were not having enough time, “regulatory issues”, lack of knowledge of the options for alternative pain relief, patient unwillingness and strong beliefs of analgesia (Almushait & Ghani, 2014, p. 8). Other noted barriers include the difficulty of measuring “coping” with pain as compared to relieving pain, the doctor or nurse being unwilling to offer alternative pain relief methods, lack of equipment and the pain being perceived as “too severe (Bicek, 2004, p. 32)” Improved education and more frequent use of alternative methods will remove many of these perceived barriers.

Perceived barriers can be broken up into three categories: barriers related to the patient, the clinicians and the health care system as a whole. Surprisingly, the existing literature suggests there are few barriers to the use of non-pharmacological methods of pain relief during labor related to patients other than their personal beliefs or attitudes and their ability to cope with pain. Therefore, the clinician and health care system based barriers will be the primary focus when enacting change.

The clinicians involved with a mother’s labor and birth have a large impact on how natural the birthing process can be. All of the staff that affects the mother’s experience, such as midwives, nurses and providers, can affect the interventions being used. Barriers to using natural methods for pain relief at this level include the clinician’s belief that analgesia should primarily be used for labor pain, their attitudes and knowledge towards alternative methods for pain relief,

the different viewpoints of midwives versus medical doctors and the lack of decision making power given to laboring women.

The firm rooted belief of analgesia for coping with labor pain, on the other hand, is a phenomenon that has been culturally adapted over the years. In order to reverse these viewpoints health care workers need to identify why childbirth switched to this process, what prevents natural childbirth in the hospital setting and explore ways to overcome these barriers. Healthcare workers, insurance companies and laboring women all need to all work together to achieve the most positive birthing experience possible.

Since nurses play such a significant role in pain management for laboring mothers, their attitudes and knowledge towards alternative methods for pain relief are central to the care they provide. Despite the importance the education and the attitudes of nurses hold for the care laboring mothers receive, it is not well studied in the United States. This should be made a priority in order to provide the most humanized care possible. Staff knowledge and opinions majorly affect the pain assessment and treatment that they use on their patients. Obtaining education on natural methods for pain relief is currently dependent on the health care workers' individual desire to seek this knowledge as well as the hospital requirements for continuing education (Almushait & Ghani, 2014, p. 10). To enhance education in this particular area either staff desire needs to be increased or the requirements for continuing education related to alternative pain relief methods need to be enhanced.

Midwives are often perceived as providing more humanized care than other providers during labor. Midwives are a center point in many healthy deliveries and are a facilitator for humanized care, but their lack of power was found as a barrier against humanized care in one study in Japan (Behruzi et al., 2010, p. 12-13). Some believe that obstetricians (OB) should be

reserved solely for high risk labors and deliveries. Any provider can be trained more holistically to be better prepared to offer holistic care and natural childbirth instead of automatically leaning towards medical interventions, though. Until education for providers can be altered to favor alternative methods for pain relief before pharmacological interventions, many will continue to favor more medicalized childbirths. Either way, mothers should have the choice of what type of provider and care they receive, instead of having to have a medicalized childbirth simply because they are pressured into it during their stay at the hospital.

One often overlooked barrier is that women are not making decisions regarding their own childbirth, and when they do they are often undermined during labor. Women should trust their providers, but on the other hand need to be constantly informed and allowed to participate in the decision making process (Behruzi et al., 2010, p. 14). Providers make choices for the women's plan of care and women often feel afraid that if they do not comply there will be negative outcomes for the baby, which often prevents women from collaborating with providers and being fully informed of all the options before giving informed consent. Conversations need to be started with women early on in pregnancy to empower them and encourage them that they are capable of delivering this baby and that it is a healthy aspect of life, not one that needs to be treated medically.

Many of the issues preventing more natural childbirth in the hospital setting are based within the health care system itself. Not having adequate time to spend with each laboring mother, lack of education on alternative methods for pain relief for clinicians, existing policies and supplies for CAM, and the fear of lawsuits and litigation are all barriers preventing natural childbirth from occurring more often in hospitals.

Not having enough time to fully explore all options for pain relief is an injustice towards laboring mothers and unfortunately parallels several other health care situations. Childbirth should be an individualized process and laboring mothers deserve one on one attention, continual labor support from doulas or other trained professionals helps to bridge this gap. The perceived lack of time can also be remedied by an increase in staffing.

Insufficient education can be treated with increased education standards for CAM. In one study, 57.8% of nurses reported that they had received at least zero to five hours of pain education in the previous two years, and 80.4% of them stated that most of the knowledge about pain management came from work experience (Bicek, 2004, p. 19). This insufficient amount of time spent on treating pain is unacceptable considering what a large role pain control plays in childbirth. Nurses and providers need to be constantly up to date on effective methods for pain relief and especially on natural ways to do so. Non-pharmacological methods for pain relief require special training, such as when using imagery, hypnosis, biofeedback, relaxation, acupuncture or distraction, and may require special equipment, like bath tubs or essential oils for aromatherapy (Almushait & Ghani, 2014, p. 10). All staff members should be trained and knowledgeable on these methods so that they can utilize them, especially in emergency situations. Laboring mothers need to be supported emotionally and physically and all health care workers need to be comfortable helping mothers to stay calm and assisting them in following their birth plans as closely as possible for as long as possible. The curriculums in college, post-graduate programs and continuing education courses need to be updated to include non-pharmacological methods for pain relief in detail.

In order to provide adequate options for alternative labor pain relief in the hospital setting, hospitals need to adjust their policies and supply labor and delivery units with ample

resources to use the various interventions. It is recommended that tubs, IDWI supplies, walk ways, side rails, rocking chairs, birthing balls, stools, positioning supplies and more be available for laboring mothers to use during their birthing experience (Simkin & O'hara, 2002, p. S156). Policies need to be developed that support the free movement of women, such as intermittent monitoring for low risk labors versus continuous fetal heart rate monitoring, bath use and doula support. Health care workers also need to be trained to be open minded, supportive and encouraging of alternative methods for pain relief if they will be providing care to laboring mothers.

Another issue that presents a barrier to natural childbirth in the hospital setting is the fear of lawsuits and liability that drives providers to use medical interventions consistently (Behruzi et al., 2010, p. 12). In some cases, health care workers think more of potential lawsuits and what insurances will pay for than the mother's desires and humanization of care. This alludes to the problem that insurance companies are becoming more important than positive human experiences, which needs to be reversed immediately.

These barriers show how integral the opinions of clinicians on alternative methods for pain relief are in the current birthing process. If the clinicians working with laboring mothers are not willing to use these methods for any reason, this will prevent their use in the hospital setting. In order to increase the use of non-pharmacological methods for pain relief during labor, the perceptions of the nurses, midwives and providers on these methods needs to be understood. This research study will examine the current methods used for pain relief, the attitudes towards non-pharmacological methods for pain relief during labor, as well as the perceived facilitators and barriers to their use. By identifying the barriers, a plan can be created to overcome them so that mothers can deliver naturally in the hospital setting if they so desire.

Chapter III: Methodology

Research Design

This study used a qualitative descriptive research design.

Study Population

Semi-structured interviews were conducted individually with three clinicians who work with laboring mothers including midwives and providers. The purposive sample was made up of participants who are 18 years of age or older, full-time or part-time employees at the designated study locations, and either a registered nurse, certified nurse midwife, physician or physician's assistant who work with laboring mothers. They were invited to participate via email, pre-made postcards in their work mailboxes, asked verbally to participate or recruited through a pamphlet or poster with call tabs. The two study locations I selected for this study were the Family Maternity Center at The University of Rochester's Medical Center (URMC) at Highland Hospital and Women's Gynecology and Childbirth Associates Community OB. All participation was voluntary. Subjects were then selected based on eligibility and interest in participation. Semi-structured interviews were conducted on an individual basis. Data collection will be ongoing until data saturation is reached.

Research tools/analysis methods

The interviews were conducted during a convenient time decided on with each clinician. Semi-structured interviews were the primary data collection tool, which were conducted with the participants on an individual basis. The primary researcher asked seven main questions during the interview but the participant responses guided the discussion. The researcher developed the interview questions based on relevant concepts found in the literature. The data collection tool was evaluated for face validity by the primary researcher and the faculty advisor. Demographic

characteristics that were collected from participants included: length of time as a clinician, occupation, gender and education level. The interview questions inquired about the current methods for pain relief being used, frequency of use of alternative methods for pain relief, what specific methods clinicians perceive being used at their institution, their personal beliefs on these methods and why they think these methods are not used more often. The interviews were audio-recorded in their entirety and transcribed to enhance accuracy. The researcher transcribed each digital recording verbatim and checked them for accuracy with RCA Digital Voice Manager Software. Since this is a qualitative study, the results were reported in terms of common categories and themes found through data analysis. The transcripts were entered into Atlas Ti 7 and then coded line by line using a priori codes by the researcher. A total of 45 codes were used originally, which were deduced to 10 categories by similarity of response topics which ultimately resulted in seven main themes.

Chapter IV: Results

Participant Characteristics

Out of the three study participants, two were certified nurse midwives and one was an OB. All of the participants were females, and their age ranged from 38 to 57 years old, with a mean age of 46. Their time as labor and delivery clinicians ranged from 10 years to 24 years with a mean of 15.3 years. The responses were coded and analyzed into seven main themes: non-pharmacological methods, pharmacological methods, factors that affect pain relief method choices, patient related factors, clinician related factors, hospital related factors and the future of alternative methods for pain relief during labor.

The Use of Non-pharmacological methods for Pain Management

When asked about education on alternative methods for pain relief during labor, the midwives stated that they received most of their education from midwifery school coursework and any continuing education conferences that they chose to attend. The OB stated that alternative methods for pain relief were learned through her childhood as a result of her culture and through her board certification in integrative and holistic medicine. The OB also sought continuing education in hypnobirthing, acupuncture and energy healing. She claimed that she had more of a midwifery style than some midwives, and that methods of practice were more influenced by the individual person than by their career choice. She said: “Sometimes I do more of this stuff than even like the midwives do. I have more of a midwifery style of practice than some of the midwives do... You know what I mean? So, it really depends on the person, you know?”

The non-pharmacological methods used most frequently were similar between the participants. Use of the bath tub, also known as hydrotherapy or water immersion, was cited as a main method used by all three clinicians. One midwife said, “The reason I think I use the tub is it gets people to get out of bed and it feels, you know, it feels good. It’s something that’s really familiar... most people have been in a bath tub before so it’s not something unusual.” Heat therapy was listed independently and in combination with hydrotherapy. The participants reported that acupressure is commonly used because it does not require equipment and can be done despite the mother’s position. Deep breathing is used especially when mothers are breathing quickly to try and re-focus them, as well as guided imagery and music. The birthing ball was listed by one clinician not because it helps with pain but because it helps the baby to move down the pelvis better and if the mom delivers the baby “the pain will go away!”

There are a few common alternative methods that were viewed as rarely used.

Hypnobirthing is not used often because the clinicians were not trained to providing it, although one clinician was currently seeking such training. Reflexology and acupuncture are also not used as often also due to lack of knowledge and training. One participant described why reflexology was not used often at the hospital: "I haven't seen it used here, though... but that's just... that's not because of an attitude issue that is more because of just a lack of knowledge." Biofeedback and TENS units are not used in the hospital due to lack of availability.

Some non-pharmacological methods were used by patients, but not provided by clinicians in the hospital setting. For example, the use of acupuncture and acupressure is limited to when mothers bring in their own acupuncturist because there is no one licensed to provide that at the hospital. Aromatherapy, such as the use of essential oils, is encouraged when brought in by the patient, but it is not provided because the hospital is considered a "scent and perfume free environment." The use of a doula is also seen, but only when the patient hires one outside of the hospital.

Many other non-pharmacological methods are used by the clinicians. They try to maintain a peaceful environment so that the woman's body can relax and work better. Hydrotherapy, heat or ice therapy, massage, therapeutic touch, positioning, effleurage, counter pressure and touch are some physical interventions listed. Position changes could include dancing, moving around the room, using the squat bar or birthing ball, standing in the tub and other movements like this. Cognitive interventions are also used such as visualization, guided imagery, conversation, chanting, relaxation and breathing techniques, and focus and distraction. Some interventions that contribute to a relaxing environment include music and aromatherapy

with essential oils. Additional methods used include sterile water injections and the use of a doula. These are the main alternative methods used by the clinicians that were interviewed.

One clinician described the purpose of using alternative methods as keeping the patient distracted from the pain. She encourages mothers to try alternative methods again during labor regardless of whether they were helpful before or not, because they may be helpful in that different moment. She summarized the use of alternative methods for pain relief: “All of it is just like kind of putting things in front of people so that they have something to do until the baby is ready to be born and just kind of keeping people busy.” One midwife said that in order for the patient to be successful at having a natural childbirth, they either have to “be bonded to the idea in the beginning [of a natural childbirth], or they have to be going so fast that you’re not going to be able to get an epidural in them.”

Based on the interview responses, the midwives often felt as though the patients would perceive any alternative methods used as “strange”. For example, one clinician described a patient’s reaction after an attempt at acupressure: “They’ll kind of roll their eyes at me like ‘oh my gosh,’ you know, ‘I got a weird one.’” The clinicians felt that some patients were uneasy with alternative methods that they tried to incorporate into their care. For example, one midwife said, “Hypnobirthing... I would say that I’m not trained in that but I can get people to, you know, kind of like go into... not a trance because that sounds so hokey, but... get them to start listening to your voice and just like that...” Another midwife described some patients’ perspectives of midwives: “What kind of cockamamie things do midwives do?” They also mentioned the need to lie on occasion to patients who are progressing too quickly to have an epidural. One clinician described this interaction, “We’re not supposed to tell them they can’t get an IV, you kind of have to lie to them but you know the IV isn’t gonna happen, or the epidural

won't happen, you know, beforehand. You know? You know that they're not going to be getting an epidural but you have to lie because they go berserk."

The Use of Pharmacological Methods for Pain Management

There are a few pharmacological methods that are regularly used, as well. Nalbuphine hydrochloride, or Nubain, was listed by all three clinicians as a pharmacological intervention that is commonly used. Morphine and Phenergen (promethazine) are used for early or latent labor and sometimes zolpidem, or Ambien, is used to help mothers sleep before labor begins to truly progress. Other than those few medications, an epidural is the medication that is mainly used. Two clinicians stated that epidurals are used 50% of the time, but one clinician described the rate of epidural use in her specific group and in the hospital: "In our practice it's creeping up, so I would say it's about 40%, 40-50%... and I would say it's about 80% in the entire hospital."

Based on the responses, epidurals are so popular because they relieve pain really well, they make patient care easier for the nurses, some providers promote them exclusively and the hospital makes more money from their use than with non-pharmacological methods for pain relief. One clinician said that some nurses prefer to take care of mothers who have epidurals because they are easier to take care of. She described this scenario: "They want someone who's numb where they can go in, look at her...you don't have to get them up. You empty their Foley catheter. They're on the [fetal] monitor. You hardly even have to talk to them!" She also said that nurses don't have to emotionally engage as much, or invest time in helping the mothers to cope, with mothers who have epidurals.

The hospital makes more money when the patient requests an epidural because more equipment and interventions are needed. When a mother agrees to have an epidural she also has to have a Foley catheter, be on continuous fetal monitoring, stay in bed and have continuous

intravenous (IV) fluids. One clinician said that she had patients tell her that the childbirth classes from the hospital taught her a little about labor and birth, but an anesthesiologist came and was “selling” epidurals to the expecting mothers at the class. This clinician said that anesthesiologists make more money putting in the epidural during a short amount of time than midwives do during the entire pregnancy care and birth. One clinician concluded the interview by saying, “Years ago sometimes women would say “This is awful, kill me!” and we didn’t kill them, you know? We would reassure them that they were okay, they weren’t gunna die. And now women say “Give me an epidural! I want an epidural!” and I don’t think they realize that they’re gunna make it through, but we don’t have any choice to give them the epidural... If they say the words “I want an epidural,” you can’t deny them that.”

Factors that Affect Pain Relief Method Choices

One term that two out of three clinicians used was “physiologic birth.” Apparently, the term “natural birth” is being replaced by physiologic birth because some women feel bad that they didn’t have a natural birth. A clinician described it as such: “The woman’s body was made to do this and now it’s...for whatever reason, it’s not being allowed to do it and therefore we’re intervening... we’re taking away the physiological part.”

The amount of pain that a mother is in and her ability to cope with it also influences the choices made during labor. Some mothers feel anxious when they are frequently asked by nursing staff to rate their pain, but hospital policy requires staff to assess it often. So, one midwife has her patients write in their birth plan they do not want to be asked about an epidural or to rate their pain during their labor. She said, “When you keep telling people to rate their pain... especially when you have a scale that you know is going to go up... you feel kind of stupid, you know?” Therefore, she encourages her patients to verbalize that they do not want to

be asked about it so that the nurses do not have to keep assessing it. Also, mothers sometimes have unrealistic expectations about the pain of labor and that presents a problem as well. One clinician describes this: “They’ll watch, you know, Baby Story on TV. If they actually showed a real birth everybody would fall asleep. If they showed a real labor no one would watch it ‘cause it’s... you’re seeing little snippets.” With inaccurate portrayal of labor and birth on television and in the media, it is important to educate mothers on what to expect. Ultimately, the goal of the clinicians is to get the mother delivered so the pain will go away.

Another factor that affects outcomes and methods used for pain relief is the progression of labor. One clinician said that sometimes women get an epidural and begin to progress more quickly because their pain is gone, but most of the time epidurals slow labor down. When labor progression slows from an epidural, it can be a good thing if it lets the mother rest a little bit or can be disheartening for the mother and result in a less smooth course of labor. For example, the baby may do poorly, the epidural can lead to other interventions, the mother might need Pitocin (oxytocin) to get the labor to speed up and ultimately the mother does not have the birth she had hoped for. If labor is progressing slowly without an epidural, it is hard for women to use non-pharmacological methods for the entire labor. Also, if the mother comes to the hospital too early during labor than she is there for hours unnecessarily which is upsetting for the mother. One midwife described this: “A lot of providers don’t send people home. They just like admit them and they’re like there forever and that’s a little disheartening, too.... You don’t need to be at the hospital when you are two centimeters, you know?”

On the other hand, if mothers are progressing fairly quickly they are more likely to be able to use non-pharmacological methods for pain relief and have a more smooth labor course.

Some mothers progress too quickly to have an epidural. One clinician described how mothers feel when using alternative methods for pain relief:

When they're successful and when they are able to utilize them, I think they feel empowered and that helps them get to the next level like "Wow. I did that. I got this far." Or they get to the end of the labor, they push the baby out and they did it with being in the tub and using some of these methods and they feel empowered. The other thing is, I feel like if you use these methods and it didn't get you to the end, you feel empowered too because you knew you tried these things.

There are also some clinicians who are more likely to use a "more medical model" of care if mothers start to fall outside of the normal progression of labor, instead of letting the woman's body keep working naturally.

The choices about pain relief during labor affect the outcomes of labor. According to one clinician, if the mother does not use any medication during the birthing process the baby will typically be vigorous and the mother usually feels a sense of pride. One midwife said "I have never seen any bad outcomes from using pain methods that have... non-narcotic...well, you know, non-invasive... you're not gunna see any harmful effects from those things." On the other hand, some people use medication and the baby does poorly and has low APGAR scores, is born sleepy and does not want to cry. Some mothers get Nubain (nalbuphine hydrochloride) and are "looped" and end up without a memory of their birth. Also, one participant said "Epidurals I think they are definitely linked to the C-section rate so I think if you have a lot of epidurals you're gunna have a lot of C-sections because it does slow labor down and there is documentation now that it does slow labor down." Despite which methods are used, the goal is always to have a safe delivery for the mother and baby.

Patient Related Factors Affecting Pain Management

A mother's ability to cope is one patient related factor that affects their choice for pain relief methods during their labor. If a mother is not coping well, she is likely to progress slowly and to not be as receptive to alternative methods for pain relief. One provider described the need to prepare before pregnancy to learn to cope: "She doesn't have the...those skills and she hasn't trained her mind in that. It really is training, like you train for a marathon. You train your mind, you know?" A mother's ability to cope is also affected by her cultural background. According to the OB, if a mother came from a family with a habit of being "reactive and inflammatory" they will be less able to cope with the pain of labor. Many alternative methods for pain relief promote relaxation, such as communicating, providing support and getting in the tub, but they also can help the mother to cope better. In order for them to increase her ability to cope with pain, the mother must be open to these methods

One clinician spoke specifically about the importance of the mother's mind-body connection. She believes that women should be trained in meditation before the labor so that she can control her own mind and "disengage" herself from the physical pain. She said: "patients with lower socioeconomic status... I think it is a great opportunity to intervene at the level of the mind for something very concrete like a delivery but it will... it's a skill that will benefit them in other areas of their life in terms of academic achievement... career achievement." She summarized that pain is still there despite which interventions were used but it was "all about the perception of the pain and the mind-body connection."

The education of the mother and her family also affects her knowledge about her options during labor. One midwife gave an example: "The dad is with and he doesn't know much about birth and he hasn't really spent that much time thinking about it but he thinks it's like TV. You

watch and the baby is gonna be born in an hour and, you know, eight hours later you're all still there and he's ready to have a fit, you know, because he's tired, he's hungry and stuff like that." Many mothers do not want to take the classes, spend the time preparing for labor, figuring out a plan or educating themselves.

One clinician said that some mothers do not educate themselves on the possible negative effects of the different medications or the alternatives that they can try. One clinician said that women need to be more educated on the various alternative methods they have available to them and these methods need to be promoted individually with the mothers and during childbirth classes. Another one admitted that they simply do not have time to address all the alternative options of pain relief because providers are supposed to see one patient every 15 minutes and they have to prioritize other topics to discuss during that limited amount of time. The OB suggested that a list of alternative methods should be discussed at childbirth classes, but did not know what the childbirth classes actually taught because she had never attended one. Another midwife said that a massive ad campaign or something similar needs to be done to promote awareness of alternative methods for pain relief during labor in order to get the public's attention. One midwife stated that it is beneficial to teach all mothers that they are capable and what methods are available to them.

The beliefs of the patient and their satisfaction with the childbirth experience are also main components of their care. Some women seek out midwifery care because they know that midwives tend to be more open to alternative methods of pain relief, while others are wary of midwives because they don't know what type of "cockamamie things" midwives do. Some mothers feel strongly about using non-pharmacological methods for pain relief and the negative effects that nalbuphine hydrochloride (Nubain) and epidurals can have on breastfeeding and

lactation, while other mothers feel strongly about wanting to have an epidural. One midwife said that she tries to work with people so that they do not feel like they failed despite what methods for pain relief they ended up using, but women often feel empowered by simply trying non-pharmacological methods. She summarized: “I think it depends on what the patient knows about them and if she believes they are going to work.” Recognizing what is important to the mother and making the decision together was considered most important.

Clinician Related Factors Affecting the Use of Non-Pharmacological Methods

Some information was collected from the three participants that reflected differences in styles of care between different career options for labor and delivery clinicians. One midwife stated that midwives tend to have a different frame of mind that focuses on the fact that “women have been birthing babies long before we were even part of it or before obstetricians were a part of it.” She said that midwives like to be a presence at birth and are wholly invested in patient centered, family centered care. Many women seek out midwifery care because of how open they are to trying alternative methods for pain relief and trying to accomplish a physiologic birth. Some mothers come to Midwives because they tried to discuss alternative methods for pain relief with their providers and were told, “You don’t need that. You’re gonna get an epidural. Don’t even bother with that.” Another midwife said that midwives get paid a flat rate for their births, instead of getting more money for performing a cesarean section like other providers do. Her midwifery group had a very low c-section rate, 10-12% as compared to 30% for the hospital in general, despite having high risk patients such as teens and women trialing a vaginal birth after cesarean (VBAC). This midwife told a story of the “Midwifery effect”: “When we left [hospital] the C-section rate went up and one of the OBs said ‘it went up because if I was out at the desk and I had my patient and I was sitting next to [midwife] at the computer and she had her

patient... I felt... I would think of more normal things, like... we lost the midwifery effect on birth when they left our hospital and our C-section rate went up.” The OB, on the other hand, believed that specialized training in alternative methods, such as acupuncture and hypnotherapy, should be obtained only by the “docs” or other board certified obstetricians. She justified this by saying: “We ordered the pain meds and we did other procedures... I think it needs to start off there otherwise there is potential for creating, I think, chaos basically on the labor floor.” She said that using other people who are not obstetricians and gynecologists (OB/GYNs) for alternative interventions can result in them becoming obstructive to care because they “don’t know the big picture.” The OB also said that it is the obstetrician’s job to figure out what is best for the person in labor.

The use of non-pharmacological methods for pain relief is also affected by how much clinicians initiate their use. A participant described this lack of attachment to a patient who has epidurals as desirable to nurses: “I think that, you know, to be honest, nurses really like the epidurals, too. You might have to move around a little bit more because they’re numb but you don’t actually have to emotionally engage as much.” One midwife said that all clinicians need to be more proactive in educating mothers about these methods and in implementing them. She also said that nurses are aware of the alternative methods, but that some nurses put that information out to mothers and others do not. One clinician said that people need to stop interjecting: “are you ready for an epidural? Are you ready for the epidural yet?” and let the mother try the other methods of coping. The OB said that it is unnecessary to put all of the options on the table for the mother, but instead that clinicians just do them with the patient. Another midwife described the importance of advocating for patients: “You can bring things up. You can advocate for your patient.... It puts...some noses might be out of joint and they’re [nurses]like “ughh” but you

have to be willing to advocate for your patient and... be knowledgeable about some of the things that they can use.” One clinician said how helpful the holistic culture is at this hospital where they have OBs, family practice groups and certified nurse midwives all working together.

A vital part of the labor process is clinician-patient interactions. One clinician said that “The whole idea of staying with the family is just a real... a very lost art. People just don’t know how to be with people.” Being present with the patient, coaching them, talking with them and distracting them with different non-pharmacological methods for pain relief are ways that clinicians describe their interactions with patients. For example, the participants described various experiences where they spent time with the mother doing activities like rhythmically pouring water on them in the tub, massaging their bellies for an hour, spending time on the phone timing contractions with them or simply offering themselves to the patient. One clinician said that she tries to make herself available to her patients: “Please. I am here. I am all yours. You know you are my only patient that I am caring for. Let me know how I can be involved in your care.” The clinicians’ responses showed that it is important to teach the woman that she is capable and to have everyone, including the nurses, patient and providers, willing to try alternative methods and believe in their use.

The amount of education that clinicians have on non-pharmacological methods affects the use of these alternative methods. Although the clinicians listed their school curriculum as a source of knowledge on alternative methods, most of the information they have comes from a personal desire to pursue continuing education on the topic. Some of the clinicians were seeking more personal knowledge and training, and they all listed conferences and lectures as places they have gotten more education on methods. The continuing education requirements are open for the clinician to decide on and therefore they can seek any knowledge that they would like to include

in their practice. One clinician stated that staff needs to be more updated on the latest evidence based practice. Another said “I feel like we don’t max out enough on some of these...and that just has to do with training.”

Hospital Related Factors Affecting Pain Management

The accessibility of non-pharmacological methods plays a large role in their use. For example, there is no licensed acupuncturist at this hospital so clinicians are unable to provide that method for mothers. There are no specific biofeedback units or TENS devices available either. One clinician described why she thinks TENS units are not available: “You don’t have one for everybody and its price ‘cause they disappear, and not everybody knows how to use them and you can’t be reimbursed so it’s that reimbursement... so, you have to put the money up from and then how do you bill? Like you can bill for an epidural and you can bill for as long as the epidural is in, but for TENS it’s hard to bill.” Other methods that are used more often are used because they are so readily available such as hydrotherapy, heat packs and breathing. Even the bath tubs are not available in every room, though. A midwife said “I think the more that you put the evidence out there the more that your hospital will... administrators, supervisors, things like that...are more willing to kind of buy into these products being available.”

The financial aspects of non-pharmacological methods play a role in their use because the hospital does not make money off them. The OB claimed that insurance coverage has no effects on the use of alternative methods because you cannot charge for any of them. On the other hand, one midwife spoke on the cost effectiveness of having doulas covered by insurance: “I mean a doula would be a huge thing and it’s not covered right now by insurance, and you know what, it’s a whole lot less expensive than an anesthesiologist and all the medications that would be given for an epidural and they have definitely proven to be beneficial in reducing unnecessary c-

sections and things like that during birth.” There is no pricing code for many non-pharmacological methods so the hospital cannot be reimbursed by insurance companies for it. One midwife described the cost of the childbirth classes: “Unfortunately, they cost money now, too. So you have the hospital classes...even the hospital doesn’t give free classes anymore.” She said that there are organizations that provide classes for reduced fees and some doulas provide care pro bono. When speaking of the need for a public ad campaign to increase awareness, one midwife said “But even that costs money. Who would pay for that? The anesthesiologists sure aren’t gonna help with it!” She said that anesthesiology makes a lot of money putting in epidurals and the hospital can charge insurance companies for the epidural itself, the Foley catheter, the IV fluids and other similar medicalized interventions but not for non-pharmacological interventions.

Some hospital policies affect the ability of clinicians to use non-pharmacological methods for pain relief with laboring mothers. For example, the use of aromatherapy is limited because the hospital is supposed to be a scent and perfume free environment. Also, providers are not given enough time during office visits to adequately address all options available to the mothers. One clinician said that she was trying to start conversations about more holistic healthcare hospital wide: “People are not really willing to stick their heads out and do things against protocols and against you know all this stuff but if you start these larger conversations and get people talking about it then you start to open up the culture...”

The Future of Alternative Methods for Pain Relief During Labor

The clinicians all had ideas on what needed to change to increase the use of non-pharmacological methods for pain relief and on what the future of their use will be like. One clinician thought that all mothers should be taught meditation throughout their entire pregnancy

and that large conversations needed to be started about holistic health at the institutional level. She also said that if women ever want equality they need to stop judging each other and they can start by not acting like one type of delivery is better than another because the only priority is that the mother and baby are both safe. Another clinician said, "I think if we just did more awareness of it and maybe if we talked about the bad side of the medications a little bit more." She believed that alternative methods needed to be discussed more with mothers, the staff needed to stay up to date and said touched on the need to be more "open and honest" about it. The third clinician thought that they will be used less overall but will vary: "It will wax and wane, too. You know, like people will see something on TV and all the sudden they'll just be like "Oh, I want that!" but they have to prepare for it."

Chapter V: Discussion

Patient Related Barriers

Based on participant responses, there are only a few patient related factors that affect the use of non-pharmacological methods for pain relief during labor. The mother's willingness to try alternative methods, the expectations of the mother for birth and her culture all affect the use of alternative methods. These few aspects are imperative because the personal beliefs of the mother are a major driving force for interventions during labor.

Two out of three clinicians mentioned the term "physiologic birth" instead of "natural" childbirth. According to their responses, the term "natural birth" made women who did not have a natural birth feel upset and ashamed that they did not have a natural childbirth. One clinician emphasized that the only goal is to have a safe mother and safe baby at the end of delivery and that the path to delivery did not matter. She believed that women need to stop judging each other and saying that one type of birth is better than another.

The culture of the mother also affects her ability to cope with labor pain. According to one clinician, if the mother comes from a family that is prone to being loud and reactive she will be less able to separate her mind from her physical experience and cope with the pain. Also, mothers may want an epidural simply because they think it is the standard way to have a baby, which is becoming truer as time passes and the epidural rate creeps up.

The expectations of the mother and her willingness to try alternative methods for pain relief impact the interventions used during labor. If a mother is willing to try non-pharmacological methods she feels more empowered after the childbirth. She also has to be open to working with clinicians and trying new methods for pain relief that she may not have considered before. Many expecting mothers also have unrealistic expectations regarding the pain of childbirth. The clinicians gave examples such as expecting birth to be similar to TV births and not as painful. This results in mothers and their families coming in unprepared for the real amount of time it takes for labor and the amount of pain they will be in. In addition, many mothers are also unwilling to spend extra time preparing for childbirth and educating themselves. Expecting mothers are busy and many are unable to commit extra time to attending classes, especially if they cost money.

Clinician Related Barriers

Although patients have a large say in their childcare experience, the clinicians hold most of the power when it comes to decision making and what type of care they provide. Many of the barriers for use of non-pharmacological methods for pain relief in the hospital setting has to do with clinicians. Lack of education on alternative methods, an unwillingness to be continually present in the patient room, impaired communication with patients, encouraging epidural use, not

fully education mothers on their options, financial incentives and personal attitudes all affect the use of alternative methods.

In order to provide patients with options for non-pharmacological methods for pain relief, health care workers need to be educated on the various methods available and the latest evidence based practice. According to the participant responses, there is no continuing education requirement specific to non-pharmacological methods for pain relief during labor. What topics the staff members choose to attend conferences and workshops on is dependent on their interest and what they want to include in their personal practice. This means that the only knowledge that many clinicians have on these methods is from school. It is important for health care workers to keep up to date on alternative methods for pain relief and seek out this type of education in order to provide quality, holistic care for their patients. The methods that were used least frequently were those that are unfamiliar to many clinicians such as reflexology, hypnobirthing and acupuncture. If staff members are not familiar with these methods they will not feel comfortable or be able to use them.

As one clinician mentioned, the whole purpose of using non-pharmacological methods for pain relief during labor is to continually distract the mother from the pain and keep her busy until the baby is delivered rather than removing the pain completely. In order to provide this type of continual distraction and increase the chances of achieving a more natural course of labor, the clinicians need to be a constant presence for the mother. Some clinicians want patients who have epidurals because they do not have to be as present or constantly distracting the mother. The patients require less emotional support from nurses. Therefore, the attitudes of nurses affect how they encourage their patients and how frequently they suggest epidurals versus alternative methods for pain relief. According to one clinician, “the whole idea of staying with the family is

just a real, a very lost art.” This shows how clinicians are more task oriented and are more likely to only be in the room when completing a specific task than they are to stay in the room continuously to distract the mother and help her cope. Their presence affects the mother’s ability to cope with pain and follow through with alternative methods for pain relief. Spending more time with patients as they progress through labor will increase patient satisfaction and their likelihood of being able to use alternative methods throughout their labor rather than medical interventions.

Based on the responses of the midwives, it is clear that patients tend to stereotype them and their responses reflected an awareness of these judgments. For example, they used terms like “hokey” and “cockamamie” to describe some alternative interventions, and spoke about how they can tell when patients think that the midwives are “weird” for trying different methods for relieving pain.

The interviews also reflected a breakdown in communication between mothers who are adamant about getting an epidural and clinicians who know that is not possible. Most clinicians mentioned having to lie to patients about their ability to have an epidural when their labor was progressing too quickly for it. Some clinicians believe in trying to lay out all the options for pain relief for mothers, while others believe in just performing the methods without consulting with the mother first. This could result in lack of collaboration if clinicians begin intervening with what they personally think is best for the mother without asking her permission or thoughts on different methods. This shows that the communication is not strong enough between patients and clinicians to always have an open and honest conversation.

According to the clinicians interviewed, there is not a large variety of medications used during labor but the main one, epidural anesthesia, is used habitually. As one midwife said,

epidurals are used about 40-50% of the time within the midwifery practice and the hospital rate is about 80%. This means that eight out of every ten moms who deliver at this hospital will have an epidural. The fact that the rate within the midwifery practice is so much lower shows that clinicians have a large impact on the use of this intervention. It is important to look at why this is occurring, what results from such a high incidence of epidural use and what can be done to decrease the use of epidurals. One clinician said that women used to say “This is awful, kill me” and now they say “Give me an epidural” instead. This shows how the birthing process has changed over time. When women used to want labor to end they would want to die and clinicians helped them work through it, now when they are in pain and feel like they cannot deal with it any longer they want an epidural and clinicians have to grant that request. Clinicians need to continue to encourage mothers that they can deliver the baby without medical intervention and that they are completely capable of doing so.

Another clinician related barrier is not providing enough education to expecting mothers on their options for pain relief. According to one participant, some providers do not give patients the opportunity to ask questions about other methods of pain relief because they believe the patients will not need them as they will have an epidural. This is problematic because patients are not being fully informed on their options due to clinician beliefs. One clinician said that mothers do not research all the possible negative impacts of medications or the alternatives they can try. It is not the patient’s responsibility to have all the needed education on side effects of medications or on alternative options for pain relief but is instead the responsibility of health care workers to provide any needed education on these topics. It is especially dangerous to expect patients to come to the hospital with education from their own source considering the vast

amount of inaccurate information available online. Unfortunately, it is difficult for clinicians to provide adequate education to mothers due to time constraints on the office care they provide.

According to the participant responses, there is a financial incentive that may come into play for providers when deciding which methods of delivery to use. According to one midwife, midwives are paid a flat rate for every birth, whereas OBs get paid more for cesarean sections than vaginal births. She said she would be interested to see the effect that getting paid a flat rate despite mode of delivery would have on the c-section rate. She also said that midwives have a lower c-section rate than other providers do, so it is possible to deliver vaginally more frequently in a safe manner.

One clinician spoke of “the midwifery effect” that the presence of midwives have on other providers in the hospital setting. According to her colleague, providers are more likely to use alternative methods for pain relief and have natural childbirths when they are working near midwives who are having more holistic, natural childbirths. This shows that the interventions used are affected by clinician attitudes and not solely the patient.

Hospital Related Barriers

Although there are not many hospital related barriers to the use of these methods, the few that exist have a profound impact on the ability of clinicians and patients to use alternative methods for pain relief. The accessibility of methods, financial priorities, education requirements of staff and various policies affect the ability of clinicians to use non-pharmacological methods for pain relief during labor.

According to the interviews, non-pharmacological methods that are easily accessible are used more frequently. This shows that in order to increase the use of these methods hospitals need to increase the availability of them. Aromatherapy is considered useful for many patients

but is not provided by the hospital because of existing policies that keep the hospital a perfume free environment. Although this is appropriate for patients who are sensitive to smells, the hospital is already violating this policy by allowing patients to bring their own essential oils or other aromatherapy products in. Therefore, the hospital should provide aromatherapy for patients who do desire it because for them the benefit of using this therapy in their room may outweigh the risk of distressing another patient down the hall. This would require a change of policy to implement, though.

Other non-pharmacological methods can be used by patients but are not provided by the hospital such as continuous labor support from a doula and acupuncture. In order to increase access to these beneficial methods the hospital could create paid positions for professionals who offer these therapies. Also, there are methods that are not provided due to cost. For example, biofeedback units and TENS units are expensive and difficult to charge insurance companies for the hospital does not provide these interventions. It is also expensive for the hospital to install a bath tub in every room so not every room has one despite extensive evidence on the effectiveness of hydrotherapy during labor. These examples show how cost can become more important to institutions than patient satisfaction, incidence of epidural use and cesarean section rates.

Since clinicians are not required to have continuing education credits related to non-pharmacological methods for pain relief, hospitals need to provide this education. Hospitals can mandate that labor and delivery clinicians obtain a certain number of credits related to alternative methods for pain relief or provide mandatory education on this topic. Without this vital education, clinicians are unable to provide effective care and adequately assist mothers with accomplishing a natural childbirth.

As previously mentioned, childbirth classes have anesthesiologists speak to expecting mothers about epidurals. It is good to provide mothers with information about all of their options but some mothers felt like the anesthesiologists were “selling epidurals” instead of providing valuable information on the benefits and risks associated with them. Mothers need to be provided with education on all of their possible options for pain relief, not just a few non-pharmacological methods and information about why they should get epidurals. Childbirth classes also cost money now, according to one midwife, so women have to pay extra to get the education on childbirth that they deserve.

Another problem at the institutional level is the lack of time allotted for clinicians to spend with each patient. This is especially important during office visits for prenatal care when clinicians are allowed only 15 minutes per patient to assess the mother and provide education, according to one clinician. Spending more time in the office with patients could help to increase the education and preparedness of the expecting mothers.

There is also a financial incentive for the hospital to use more medicalized interventions over non-pharmacological interventions. One of the participants said that insurance had no affect on the use of non-pharmacological methods, but the other two gave several examples of how it did affect it. For example, when the patient gets an epidural, the hospital is reimbursed for the Foley catheter, IV fluids, the fetal monitor, the anesthesiologist’s work and the epidural itself. According to one midwife, the anesthesiologist gets more money for putting in the epidural than midwives do for the entire pregnancy and birth. There is no pricing code for non-pharmacological methods for pain relief though, so the hospital cannot bill the insurance companies or make money off of them. One aspect of non-pharmacological interventions that is important is how all the clinicians said there were no negative effects associated with them. Any

intervention that has no negative effects for the mother or baby should be a priority in care regardless of how much money the hospital makes from using them.

Limitations

Although this study had a small sample size, it was adequate for the qualitative, descriptive nature of the study. The ability to generalize the results is limited because there was only one obstetrician participant and no nurse participants so the various clinician groups were not sufficiently represented. The lack of participation was also hindered by the lack of time available to recruit additional participants. The results may also be limited by the possibility of the participants answering with more conservative responses due to a lack of rapport with the interviewer and hesitancy to discuss differences between career paths, barriers and problems with the current model of health care. The responses may also have been influenced by the conversation nature of the interview and the interviewer responses during the interview process.

Conclusion

This study describes the perceptions of labor and delivery clinicians regarding non-pharmacological methods for pain relief during labor. Changes can be made at the patient level, at the clinician level and at the institutional level in order to overcome these barriers. Although patients have a large say in the care they receive and hospitals have control over resources available and policies, the clinicians have the largest affect on the use of non-pharmacological methods. In general, increases in education related to alternative methods will result in increased awareness of its safety and effectiveness, the available of these methods and how frequently they are used. Overall, the clinicians need to focus care around what is important to the woman and make decisions regarding care together.

Chapter VI: Appendices

Appendix A: Study Informational Letter

Amanda R Cochrane
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585-314-9032

Dr. Susan E. Lowey PhD, RN
Faculty Advisor
585-313-8944
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12/2/2014

Dear Potential Participant,

I am a Bachelor's of Science in Nursing student at the State University of New York Brockport and would like to invite you to participate in a research study that explores the barriers to use of non-pharmacological methods for pain relief during labor. You are being asked to participate in this research study because you are a clinician who works with laboring mothers. This research study has been approved by the SUNY Brockport Institutional Review Board (IRB).

The purpose of this study is to describe the perspectives of labor and delivery clinicians about their facility's current use of non-pharmacological methods of pain relief during labor, their opinions on the effectiveness of these methods, and the perceived barriers to the use of these methods in a hospital setting. By identifying the barriers to use of non-pharmacological methods for pain relief during labor, it is hoped that we can propose ways to overcome these obstacles in order to help laboring mothers achieve a more "natural" childbirth in the hospital setting.

If you are interested in participating, please call the number listed below to plan a convenient day, time and location to meet for the study. For this study, I would like to interview you once for 20-30 minutes. The interview session will be audio-taped for accuracy. Your formal consent will be obtained before we begin. During the consent process, I will be asking your permission to attain some basic demographic information (age, gender, occupation) about you.

Your participation in this study is voluntary. A \$5 gift card to Dunkin Donuts will be provided as an honorarium for participants following the interview.

Thank you for your time and consideration. If you have any questions about this study, please contact Amanda Cochrane at (585) 314-9032.

Amanda R. Cochrane

Nursing Student

SUNY Brockport

Appendix B: DEMOGRAPHIC INFORMATION SHEET

PERCEPTIONS OF LABOR AND DELIVERY CLINICIANS ON NON-PHARMACOLOGICAL METHODS FOR PAIN RELIEF DURING LABOR

Amanda R. Cochrane, Student Nurse, Primary Researcher
Dr. Susan E. Lowey PhD, RN, Faculty Advisor

Age _____

Gender - Female Male

Occupation: _____

Length of time as labor and delivery clinician _____

Appendix C: STATEMENT OF INFORMED CONSENT

The purpose of this research study is to describe the perceptions of labor and delivery clinicians on non-pharmacological methods for pain relief during labor. This study will specifically examine the current use of non-pharmacological methods of pain relief during labor, opinions on the effectiveness of these methods, and the perceived barriers to the use of these methods in a hospital setting. The person conducting this research is a Bachelor of Science in Nursing (BSN) student at The College at Brockport, SUNY. This research project is also being conducted to satisfy the primary researcher's Undergraduate Thesis requirement for the Honors College at the College at Brockport, SUNY.

In order to participate in this study, your informed consent is required. You are being asked to make a decision whether or not to participate in the project. If you want to participate in the project, and agree with the statements below, please sign your name in the space provided at the end. You may change your mind at any time and leave the study without penalty, even after the study has begun.

I understand that:

1. My participation is voluntary and I have the right to refuse to answer any questions.
2. I will be audio taped, and the researcher will transcribe the audio tapes. There will be no way to connect me to my responses. If any publication results from this research, I would not be identified by name.
3. I will receive a \$5 Dunkin Donuts gift card as a benefit for my participation in this project. There is a minor risk in the time that it takes to complete the interview.
4. My participation involves being audio taped during an interview conducted at a mutually agreed upon location and answering seven pre-determined questions. Additional questions may be asked based on the nature of our conversation. It is estimated that it will take 20-30 minutes to complete the interview.
5. Approximately 15-25 people will take part in this study. The results will be used for the completion of an honor's thesis by the primary researcher.
6. Data, audio tapes, and transcribed notes will be kept in a locked filing cabinet and a password protected computer by the investigator. Only the primary investigator will have access to the tapes and corresponding materials. Data, audio tapes, transcribed notes and consent forms will be destroyed by shredding and deleting when the research has been accepted and approved.

Payment for participation: Participants will receive a \$5 gift card to Dunkin Donuts for participation in this study. Participants will receive their gift card at the end of their interview.

I am 18 years of age or older. I have read and understand the above statements. All my questions about my participation in this study have been answered to my satisfaction. I agree to participate in the study realizing I may withdraw without penalty at any time during the survey process.

If you have any questions you may contact:

Primary researcher	Faculty Advisor
Amanda R. Cochrane	Susan Lowey PhD, RN
(585) 314-9032	Department of Nursing (585) 313-8944
acoch1@brockport.edu	slowey@brockport.edu

I agree to participate and understand that I will be audio taped.

Signature: _____

Date: _____

Appendix D: List of Alternative Methods

Some Non-pharmacological methods to help laboring mothers cope with pain:

- Birthing ball
- effleurage
- Hydrotherapy / Water immersion
- Heat or ice therapy
- Massage
- Therapeutic touch
- Visualization/guided imagery
- Audio-analgesia (Music, conversation..etc)
- Adequate Hydration
- Deep breathing/ patterned breathing
- Aromatherapy
- Relaxing environment
- Reflexology
- Lamaze/Bradley, prenatal education
- Prenatal yoga and meditation
- Doula/continuous labor support
- Hypnobirthing
- Biofeedback
- Transcutaneous electrical nerve stimulation (TENS)
- Maternal positioning
- Intradermal water blocks / intercutaneous sterile water injections
- Acupuncture and acupressure
- Aromatherapy
- Focus and Distraction
- Counter-pressure

Appendix E: Interview Protocol

I will be audio taping our conversation today to ensure accuracy of the information that I collect. Data, audio tapes, and transcribed notes will be kept in a locked filing cabinet and a password protected computer by the investigator. Only I will have access to the tapes used today and they will be destroyed upon completion of this study. You must sign an informed consent form indicating that you understand your rights as a participant in this study. This form essentially states that: (1) all information will be held confidential, (2) your participation is voluntary and you may stop at any time if you feel uncomfortable, and (3) we do not intend to inflict any harm. I also have a demographic information sheet for you to fill out. No personal identifiers will be linked to your responses. Thank you for agreeing to participate.

This interview should last 20-30 minutes. During this time, I will ask you a series of questions that I have come up with myself and will allow your responses to guide the conversation.

Introduction

You are eligible to participate in this study because you are a clinician who works with laboring mothers. The purpose of this study is to describe the perceptions of labor and delivery clinicians on the barriers to use of non-pharmacological methods for pain relief during labor. This interview will help me learn more about current practices for pain relief during labor, the belief of clinicians on alternative methods for pain relief and perceived barriers to the use of these methods in the hospital setting. I have provided you with a list of some “alternative” methods for pain relief during labor. When I mention non-pharmacological methods or alternative methods for pain relief, I am referring to methods similar to those on the list. Please answer the following questions based on your personal opinions and your experiences. As a reminder, you will not be linked to your responses.

A. Interviewee Background

- How long have you been a nurse/midwife/provider?
- How long have you been in your current position?
- How long have you worked at this institution?

B. Interview Questions

1. What methods of pain relief during labor do you see being used on a regular basis?
 - In your experience, what effects do these methods for pain relief have on pain control?
 - In your experience, what effects do these methods have on delivery outcomes?
2. What do you currently know about non-pharmacological methods for pain relief during labor?
 - Can you name a few methods that you are familiar with?
 - What training have you had on alternative methods for pain relief?
 - Have you sought any continuing education that focuses on alternative methods for pain relief?
3. What alternative methods for pain relief do you see used in your practice?
 - Do you see these methods used at all?
 - How often do you see these methods being used?
 - Which methods do you see used most frequently? Why do you think that is?
 - In your experience, what effects do the use of non-pharmacological methods for pain relief have on delivery outcomes?
 - What effect do you think these methods have on the ability of mothers to cope with pain?
4. What are your personal viewpoints on the use of these methods for pain relief during labor?
 - Do you advocate for their use in practice?
 - Do you educate mothers and families thoroughly on their options for pain relief?
5. What barriers do you think prevent the use of non-pharmacological methods of pain relief during labor in this setting?
 - How aware do you think expecting mothers are of the multitude of non-pharmacological options for pain relief?
 - What effect do you think health insurance coverage has on their use?
 - Do you think some clinicians are more likely to encourage their use than other? If so, explain.

6. What factors do you think facilitate the use of these methods in this setting?
 - What changes do you see being required to increase the use of alternative methods of pain relief during labor?
 - What effect do you think clinicians have on the use of these methods?
7. What do you see being the future of alternative pain relief methods?
 - What do you think can increase the availability of these methods for laboring mothers in the hospital?
 - How could these changes be implemented?

C. Post Interview Comments and/or Observations:

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