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Antepartal Bedrest: Conflicts, Costs, Controversies and Ethical Considerations

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Abstract

Currently, more than 90% of obstetricians prescribe bed rest for antepartal women who are experiencing complications in pregnancy. Even though researchers have found that bed rest is not effective in reducing preterm births, 20 percent of pregnant women will spend at least one week during pregnancy on bed rest. Preterm premature rupture of membranes (PPROM) accounts for 33% of all preterm births and is significantly associated with maternal, fetal, and neonatal morbidity and mortality risks. Antenatal bed rest creates physical, emotional and financial costs for the patient, families, and third-party payers. National health care dollars spent in 2001 for short gestation was \$1,887, 716,535. Treatment decisions are often made on an emotional basis or medical litigation issues rather than ethical outcomes surrounding the threshold of fetal/neonatal viability.

Keywords:

Preterm, Preterm Premature Rupture of Membranes (PPROM), Ethics, Antepartal Bed Rest, Costs

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BACKGROUND

Obstetricians currently prescribe bed rest for 1 out of every 5 pregnant women for at least one week during pregnancy; however, researchers have found bed rest is not effective in reducing preterm births (AHRQ, 2000, Maloni, 1998). The common practice of prenatal hospitalization for treatment of pregnancy complications contributes to the high cost of prenatal care, placing tremendous economic burdens on families and third-party payers (Ambrose, Rhea, Istwan, Collins & Stanziano, 2004). Furthermore, several studies have demonstrated that bed rest may cause adverse effects for the pregnant client (Maloni, 1998, Maloni, et.al, 2001). Prenatal hospitalization and prolonged bed rest commonly causes physical, emotional and financial distress and results in minimal if any significant improvement in outcomes. Authors submit that the time has come for healthcare providers to address the conflicts, costs and ethical controversies that surround antepartal bed rest.

More than 90% of obstetricians prescribe bed rest for pregnant women experiencing complications of pregnancy such as multiple gestation, threatened abortion, pre-term labor (PTL), preterm premature rupture of membranes (PPROM), or pregnancy-induced hypertension (Maloni, 2001). For many of these women, the medical plan of care will include an unexpected and prolonged hospitalization with bed rest as a means to enhance reproductive outcomes (Sprague, 2004).

The outcome for 11% of all pregnancies in the United States is preterm birth resulting in the majority of all neonatal deaths and 50% of all cases of congenital neurological disability. Two percent of all preterm births occur prior to 32 weeks gestation. Interventions to prevent preterm birth have not decreased the rate of preterm birth since 1980; in fact over the last fifteen years, some state and national statistics actually demonstrate an increase in preterm birth (Goldenberg & Rouse, 1998).

Preterm premature rupture of membranes (PPROM) accounts for 33% of all preterm births and is significantly associated with maternal, fetal, and neonatal morbidity and mortality risks. The most serious complication is respiratory distress syndrome (RDS), but other common complications include necrotizing enterocolitis, intraventricular hemorrhage, and sepsis. Currently, considerable controversy persists over the potential

benefits of conservative management related to gestational age. The further away from term, the more likely one will experience long-term sequelae or death. A growing body of health professionals proposes that prior to prescribing bed rest, other things should be considered such as gestational age should be established and amniotic fluid index. Additionally, the antepartal woman should also be monitored for sepsis and abruption placenta (Mercer, 2003; Simhan & Canavan, 2005).

CASE STUDY

The following case demonstrates conflicts and costs of antepartal bed rest in light of the minimal benefits. Two of the authors (Dunn and Handley) were involved in a bed rest study in which a 20 year old married woman from the case study was a participant. The woman was in her second pregnancy with a 6 month old child at home when she was admitted to the obstetrical unit of the hospital at 19 weeks of pregnancy with PPRM. The bag of water surrounding the baby had ruptured, but labor had not begun. Delivery at this time would have resulted in a nonviable fetus (Mercer, 2003).

The husband was self-employed with no health insurance: income was less than \$20,000, and ineligible for Medicaid coverage for the family. Upon admission, the obstetrician and neonatologist offered the couple no hope for a positive outcome - even with treatment. Nonetheless, the young couple insisted on treatment and the woman was placed on inpatient bed rest for nine weeks with a total medical care cost of \$128,000. A case manager was instrumental in getting Medicaid coverage since the family experienced a reduction in income due to the situation. Although the husband was employed, he lost work time due to needing to be with his wife and having to arrange childcare for their other child. He did not have work benefits to compensate for missed work time.

The woman did not experience any additional antenatal complications during the hospitalization, such as endometritis, chorioamnionitis, or sepsis. Weekly ultrasounds continued to show marked oligohydramnios (lack of sufficient amniotic fluid around the fetus) which is known to result in intrauterine growth restriction (IUGR), pulmonary hypoplasia or limb deformities (Olds, London, & Ladewig, 2000). The baby was delivered by cesarean section at 28 weeks and lived for twelve days in NICU. Hospital charges for the infant totaled \$161,000. As was expected, the infant was diagnosed with pulmonary hypoplasia and IUGR. The daunting question is: how beneficial was the bed

rest and does the cost justify the results? Was it ethical to subject the family to this treatment plan against these odds?

REVIEW OF LITERATURE

Use of bed rest in pregnancy

Prior to the 19th century, bed rest was rarely prescribed as a therapeutic measure (Sandler & Vernikos, 1986). In the early 1800s, bed rest began to be prescribed routinely as a medical and nursing practice intervention that continued well into the 1950s. Prescribing bed rest was thought to reduce fatigue and other functional physical demands (Maloni, 1998). Later during the early 1900s, bed rest became a common practice for care of antepartal women. When the best course of action to take for a problem pregnancy was not known, bed rest was initiated. This practice continues today despite the fact that there is no evidence to support or refute the use of antepartal bed rest in preventing preterm birth (Maloni, Brezinshi-Tomasi, & Johnson, 2001). Sosa, Althabe, Belizan (2004) suggest that research to investigate the effects of antenatal bed rest was initiated in the 1980s. Antepartal bed rest may result in adverse effects for both the patient and the healthcare system.

Physical costs

Until recently, bed rest in pregnancy had been thought to be harmless for the antepartal woman and beneficial to the fetus. However, antepartal bed rest for three days or more may result in complications such as loss of muscle tone, calcium loss, bone demineralization, constipation, fatigue, shortness of breath, glucose intolerance, anxiety, depression, increased stress, as well as a delay in recovery during the postpartum period. In addition, less than desired maternal and fetal weight gains have been documented for women on antepartal bed rest (Maloni, Chance, Zhang, Cohen, Betts, & Gange, 1993; Schroeder, 1996).

Emotional costs

The emotional changes that occur with prolonged bed rest may be just as debilitating as the physical changes. Heaman (1992) reported a greater incidence of mood disturbances, anxiety, depression, confusion, and less vigor in the hospitalized antepartal woman. Changes in sleep patterns and a decrease in the quality of sleep

also occur. The lack of quality sleep, compounded by the isolation from family and concerns about finances, the mother's health, the development and health of the coming baby and other family members may be associated with emotional lability, fatigue, and loss of motivation, sensory disturbances and decreased cognitive abilities.

Bed rest adversely affects the woman's stress level, mood and sense of control over varied aspects of her life. Her self esteem and the ability to function in her roles as wife, mother, or professional person will likely suffer as she is limited in her ability to fulfill the previously expected behaviors in her employment, home and social network. The people and institutions that depend upon her must now cope without her in that role (Sprague, 2004).

McCain & Deatrck (1994) reported that the experience of having a high-risk pregnancy is progressive and involves numerous emotional responses, such as feeling vulnerable, having heightened anxiety, and the evolvment of an inevitable delivery. Some nurses are very factual and give little hope, others believe if encouragement is given, the woman may avoid anxiety and participate more willingly in prescribed care.

Compounding the psychosocial concerns is the uncertainty of the pregnancy outcome. Every day is filled with conflict and stress.

Financial costs

In addition to physical and emotional costs of antepartal hospitalization, financial costs are significant. Ambrose et al (2004) stated prenatal hospitalization is a common obstetrical approach that creates an economic burden for families and third party payers. According to the Healthcare and Utilization Project (HCUP 2002), short gestation, low birth weight and IUGR would likely result in bed rest that costs an average of \$75,301 per case with an average length of stay (LOS) of 24.7 days. The national bill for short gestation in 2001 was \$1,887,716,535.

Hospitalized, antepartal women are more likely to be uninsured or covered by Medicaid than women admitted for delivery. Medicaid and uninsured women account for 47.4% of women receiving ante-partum hospitalized care (HCUP 2002). This is particularly important because many of the costs associated with care have to be absorbed by the hospital. Also, research demonstrates that the charges for initial hospitalizations increased as birth weights and gestational ages decreased (Cuevas et al. 2005). Studies of outpatient programs have been shown to be as, or more effective in the

treatment of prenatal women and much more cost effective (Ambrose et al, 2004). Unfortunately, Medicaid in some states will not cover antenatal home health care. Preterm births account for one-third of all health care dollars spent on infants and one-tenth of dollars spent for children.

Ethical Considerations

Ethical considerations related to use of bed rest to retard preterm delivery require healthcare professionals to take a hard look at current practice, the rationale behind decision making and whether outcomes support practice decisions. Carlton, Callister and Stoneman (2005) studied decision making in antepartal women. Women in this study reported greater feelings of satisfaction with decision making, a sense of empowerment and confidence with the decisions they made. The authors identified both environmental and practice factors influencing patient's decision making abilities and emphasized the importance of a supportive nurse who could provide accurate information and verify the patients understanding. Citing the association between a supportive nurse and patient satisfaction, they recommended nurses base professional practice on the ethical standards and principles of autonomy, beneficence, informed consent, and standard of best interest (Carlton, Callister, & Stoneman, 2005).

A preterm delivery is a powerful event in a family's life with long term consequences and strong emotional ramifications. Multiple resources may be utilized when a woman is diagnosed with a condition that could result in preterm delivery. The goal of expectant management is to increase the prolongation of pregnancy to increase gestational age; thereby, potentially decreasing the effects of prematurity (Stringer, Miesnik, Brown, Martz, Macones, 2004). Despite remarkable advances in neonatal care that have improved the outcomes for preterm infants, little has occurred to reduce the incidence of preterm delivery.

The dilemma facing the woman, her family and healthcare providers is immense and occurs in an emotionally charged environment of threatened preterm delivery, possible loss of infant and/or financial hardship. They struggle with the opposing values of beneficence where those involved want to do everything possible to save the life of the child and justice where they make decisions based on logical outcomes and fairness (Kirsh, 2006).

The need for informing the patient of known risks, benefits, and other alternative approaches by the healthcare provider was reported in the literature. Information presented prior to the events would allow the patient and family to make responsible decisions based on facts before they are placed in an emotionally charged environment. Hearing alternatives and making decisions in the mist of strong emotional events would likely result in the woman deciding with her heart rather than logic (Simpson & Thorman, 2005). It is the opinion of the authors that if a woman is given information early, she could still change her decision as events presented, but she would be better informed.

DISCUSSION AND RECOMMENDATIONS

This case study highlights many of the aspects regarding care of women on bed rest due to pregnancy complications. The anxiety and uncertainty exhibited by the family, the desire of the woman for the physicians to provide every possible effort to save the pregnancy and the limited success in preventing preterm delivery are in stark conflict with the possible or probable poor outcomes for the fetus, the risk for the mother, and the accelerating cost for the care. Because the outcomes have been poor, will the policy makers decide that the money spent on prolonged bed rest in the early ante-partum period is an inefficient way to spend U.S. healthcare dollars?

The patient in this case study was hospitalized for 63 days with a cost of \$128,000. This cost includes only cost incurred by the hospital and does not contain loss of income of the patient and the patient's family members. Also, childcare for another child and costs of visiting the patient are in addition. A portion of these patients' charges was covered by Medicaid and women with like coverage account for 2 of 5 obstetric hospital stays.

The preterm infant in this case study lived for 12 days in the neonatal intensive care unit and again a large portion of the \$161,000 cost was absorbed by the hospital. The cost for the mother's hospitalization and the infants totaled \$289,000. With an extremely poor prognosis at this very early gestational age, health care providers and policy makers might question if this mother could not have been treated at home with much less costs incurred.

Information related to preterm labor, possible interventions, and likely outcomes could be discussed as the woman approaches the threshold of viability. When the nurse or physician discusses the signs and symptoms of premature labor or preterm premature rupture of membranes, the discussion could also include the necessity of the family to

consider the costs and probable outcomes and begin to develop a framework that could guide them in decision making if the situation should present. This would ease the decision making process, remove some feelings of guilt, and result in decisions that were not formed on purely emotional values.

While healthcare professionals and the public alike may desire a positive outcome to complicated pregnancies, we must confront this dilemma and develop practices that address the need for fiscal and ethical responsibility in obstetrical and neonatal healthcare. Providers should seek the most cost effective treatment to achieve the optimum result. Another course of action would be to support the care of women on bed rest at home. Currently, to be covered by Medicaid in Alabama, pregnant women on bed rest must be hospitalized. The care by home health nurses, using home monitoring, could be an effective alternative.

Nurses must help educate the public to the crisis in healthcare regarding preterm labor and bed rest, pointing out risk factors, signs and symptoms, and the realistic expectations if preterm labor or PPRM develops. Nurses can also inform the legislators, encouraging them to realistically address the situation and provide funding for alternatives for lengthy hospitalization of these women. Obstetrical healthcare providers must base treatment decisions on probable outcomes and ethical principles rather than on emotion; especially when the fetus is distant from the threshold of fetal/neonatal viability.

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