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CASE REPORT

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Excessive Preterm Births in El Paso: A Proposed Intervention

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ABSTRACT

Preterm birth is the leading cause of neonatal morbidity and mortality. The preterm birth rate in El Paso County, 14.2%, exceeds the national and Texas rates of 12.7% and 13.1% respectively. Evidence-based diagnostics and therapeutics are available to healthcare providers caring for pregnant women at risk for preterm birth but these modalities are underutilized in El Paso County. The etiology of recurrent preterm birth is heterogeneous and a multifaceted approach is needed. A Preterm Birth Prevention Clinic is a multifaceted intervention that has proven effective in reducing the preterm birth rate. A Preterm Birth Prevention Clinic in El Paso County is presented.

The preterm birth rate in the United States is approximately 12.7%.¹ The rate in Texas is 13.1%, and El Paso County's preterm birth rate is even higher at 14.2%.¹ In 2009 there were 1,984 preterm births in El Paso County. Compared to the Healthy People 2020 goal of a preterm birth rate of 11.4%, El Paso County's present rate is 25% above the targeted goal.²

Spontaneous preterm birth is the leading cause of prematurity and the greatest risk factor for spontaneous preterm labor is a history of preterm birth.³ Approximately 15% of preterm births occur in women with a prior preterm birth. The etiology of preterm birth is heterogeneous and therefore, a multifaceted approach is needed.⁴

A patient with no history of preterm birth who has a short cervix by ultrasound examination also has an increased risk of preterm birth; the risk may exceed 75%.⁵ Weekly injections of 17-hydroxyprogesterone caproate (17-P) in patients with a prior preterm birth reduces the recurrence by 35%.⁶ Patients with no history of preterm birth but a short cervix treated with daily vaginal progesterone have a 45% reduction in preterm births.⁷ The transvaginal measurement of cervical length is a specialized procedure best performed by maternal fetal medicine specialists.⁵

Preterm birth prevention clinics provide a multifaceted approach to recurrent preterm labor and are underutilized in managing patients with elevated risk for preterm delivery. A recent preterm birth prevention clinic initiated by Manuck and associates in Salt Lake City, Utah, resulted in a 28% reduction in preterm births in women who had a prior preterm birth.⁴ It is likely that a preterm birth prevention clinic in the El Paso region would also see a similar, if not greater, reduction in recurrent preterm births.

The proposed intervention is a preterm birth prevention clinic (Clinic) for pregnant women in El Paso County, Texas. The Clinic would serve women delivering in El Paso County who had a previous spontaneous preterm delivery between 16-35 weeks or who are found to have an elevated risk of spontaneous delivery before 35 weeks with the current pregnancy and who are candidates for evidence-based interventions. Presently, there are no preterm birth prevention clinics in the area and evidence-based diagnostics and interventions are underutilized.

The Clinic would be modeled after the one initiated by Manuck and associates in Salt Lake City, Utah.⁴ Patients would be referred by obstetrical healthcare providers: community and outreach clinics, private practitioners, nurse practitioners, certified and direct-entry midwives, university clinics, and others. The prenatal care and delivery services would remain under the guidance of the patient's primary healthcare provider; the Clinic would enhance the prenatal care by providing consultation with board-certified maternal fetal medicine specialists, utilizing evidence-based diagnostics and interventions, and using pregnancy centering to educate and support women at risk for preterm birth.

The aims of the Clinic are fourfold: (1) to reduce the morbidity and mortality associated with preterm birth; (2) to educate women at risk for preterm birth in order to apply timely, effective interventions; (3) to provide support for women at risk that might not be available during routine prenatal care; and (4) to lower healthcare costs associated with preterm birth.⁸ The benefits for the referring healthcare providers include a decreased workload in managing their high-risk patients, shared risk, and full assessment and treatment of their patients at risk for preterm birth. In addition, healthcare providers are more likely to refer patients to the Clinic if they know that the primary care of the patients remain with their practices.

The great majority of referred patients (more than 90+%) would be women who had a prior preterm birth and will be identified by their primary care providers by history. Some patients may be identified by their primary care providers as "at risk" for preterm birth because of an incidental finding of a short cervix on ultrasound examination. These women may be primigravidas or multigravidas with no history of preterm birth. This group of women would most likely comprise less than 10% of all referred patients.

Upon referral by the primary healthcare provider the patient

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would be seen 3 critical times during the pregnancy: Visit 1 at 10-18 weeks, Visit 2 at 19-24 weeks, and Visit 3 at 28-32 weeks. At Visit 1 an in-depth medical and obstetrical history would be obtained to ascertain whether the patient would be a suitable candidate for the Clinic. A personal preterm birth recurrence risk assessment or current pregnancy risk assessment would be performed.^{5,9} If the patient is a suitable candidate for the Clinic further diagnostics would be performed including urinalysis, urine culture, and transvaginal cervical length (CL), an evidence-based diagnostic that is underutilized in El Paso County.¹⁰ Most patients would be offered weekly 17 alpha-hydroxyprogesterone (17-P), an effective, evidence-based intervention that is also greatly underutilized in El Paso County.⁵ In selected cases, a cervical cerclage might be recommended.

At Visit 2 the following diagnostics would be done: urinalysis, urine culture if indicated, CL, and fetal fibronectin (FFN), a marker for increased risk of preterm labor and delivery.¹¹ Patients who previously declined weekly 17-P injections would again be counseled. In women with no prior preterm birth but who was referred because of an incidental ultrasound finding of a short cervix daily vaginal progesterone would be offered as an evidence-based intervention.⁷ During Visit 3 the same diagnostics that are used at Visit 2 would be repeated as indicated. Patients on vaginal progesterone or 17-P would continue on these medications until 36 weeks.

There should be no increased medicolegal liability by referring a patient to the clinic; in fact, any medicolegal liability should actually decrease because of the availability of maternal-fetal medicine consultation and access to state of the art diagnostics and therapeutics. The primary healthcare provider will be sent copies of ultrasound reports, lab reports, and a consultation note after each visit to the preterm birth prevention clinic.

Many of the modalities that will be used in the clinic—vaginal ultrasound exams, 17-progesterone, vaginal progesterone, cervical cerclage, fetal fibronectin—are currently not used or underutilized by the primary care physicians. Many of these modalities are new, within the past 5 years, and practitioners are not fully informed of their benefits. The primary healthcare providers will be educated concerning the role of the clinic as well as methods and modalities of managing patients at increased risk of preterm labor.

For more information on the Texas Tech University Health Sciences Center Preterm Birth Prevention Clinic please call 915-545-6730, extensions 272 or 292.

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