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The reality: The medical and nursing needs of OB patients are changing

- Pregnancy is not just pregnancy, it is a co-morbid condition.
- Patients are not often told “You should never get pregnant.” Advances in medicine and assisted fertility have made it possible for almost anyone to become pregnant and survive a complicated pregnancy.

- Mature gravidas/advanced maternal age
- Women with chronic pre-existing medical conditions
- Assisted reproduction technology
- NICU “graduates” who have underlying issues related to their prematurity

(Schimmelpfennig, K. and Stanfill, T.J.M., 2008)

The changes in the OB patient population

- JCAHO has reported 13.3 maternal deaths per 100,000 live births with the national target being 3.3 maternal deaths per 100,000 live births.
- JCAHO has recommended that hospitals educate staff, both medical and nursing, about common pre-existing and underlying conditions which may be related to the rise in pregnancy related deaths.

Zigmond (2010)

The changes in the OB patient population

- Obesity: An estimated 30% of women ages 20-39 are obese.
  - Diabetes and HTN are more prevalent in obese patients
- Seizure Disorders: The most common neurological complication of pregnancy
  - Frequency of seizures usually increases in pregnancy
  - Threats to the fetus include: skeletal, cardiac, and facial anomalies, neural tube defects, developmental disabilities, and hemorrhagic disorders

(Dunlop, et. al, 2008)

The changes in the OB patient population

- Cardiac patients
  - Cardiopulmonary arrest is rare, once in every 30,000 pregnancies, but conditions such as HTN, diabetes, asthma, and others are predisposing factors to cardiopulmonary arrest (Schimmelpfennig, K. and Stanfill, T.J.M., 2008)
  - Some studies suggest there is no difference in the prevalence of chronic illness among non-pregnant and pregnant women, including heart disease (Chatterjee et al, 2008)

The changes in the OB patient population

- Assisted Reproductive Technology
  - Advances in assisted fertility allow many women with chronic illnesses, such as lupus (SLE), to become pregnant.
  - A definitive cause is not known, but up to 35% of women with SLE have "recurrent reproductive failure" and thrombotic disease.
  - SLE greatly increases the risk of HTN, eclampsia, diabetes, infection, IUGR, spontaneous abortion, pre-term delivery, and neonatal complete heart block.
  - Assisted fertility gives any woman with any chronic illness a fighting chance at becoming pregnant.
  - The good news for women with SLE: 90% of pregnancies complicated by SLE today are successful.

(McNaughton, et. al., 2008)

The changes in the OB patient population

- NICU graduates: Case studies from Community Hospital North
  - 22yo G1P0 was born at 27 weeks with common struggles of prematurity
  - Normal, healthy childhood
  - 30 weeks pregnant with her first baby, she presented to the ED with SOB and unstable vital signs. Diagnosed with CHF and pre-eclampsia.
  - C-section scheduled for that afternoon
  - Transferred to ICU, where she was placed on a ventilator, MgSO4, and a nitro drip
  - Mom and baby doing well today

The changes in the OB patient population

- NICU graduates: Case studies from Community Hospital North
  - 38yo G5P1 with history of patent ductus arteriosis with repair
  - Admitted at 37+3 weeks for induction related to severe pre-eclampsia
  - Induction cancelled and primary c-section performed due to severity of symptoms
  - Complications included: PP hemorrhage, elevated cardiac and liver enzymes, HELLP
  - No neonatal complications
  - Patient was discharged on post op day 7

The reality at Community Hospital North

- In the past 5 years, we have experienced dramatic changes in:
  - Services offered
  - Physical growth
  - Patient population

Services

- Community Health Network added first perinatologist to staff in 2004.
- A second perinatologist was added in 2005.
- In 2007, our NICU went from accepting infants at 28 weeks gestation and above to accepting those at 24 weeks and above.

Growth

- In April of 2007, Community Hospital North expanded in many areas, including OB and NICU.
- The NICU doubled its size from 16 beds to 32 beds the 24 weekers began to take residence.

Growth

- Our Maternity unit doubled its size.
- Before April of 2007, we had 30 LDRP suites, one holding nursery, and 2 OR's on one condensed unit.
- In April of 2007, we moved to a 60 bed LDRP unit with 2 holding nurseries and 4 OR's, making us the largest unit of its kind in the country.

Growth

- With the growth of our physical space, our staff grew as well.
- Our perinatologists began accepting and delivering their own patients. Previously, they only consulted on cases for our obstetricians.
- 3 of our obstetricians moved their practices from Community East to Community North.

Growth

- 4 more new obstetricians have joined our medical staff.
- In 2006, we had 150 employees, 99 were nurses. We now have over 250 employees, and 170 are nurses.
- We delivered 2200 babies in 2006 and 3200 babies in 2009.

Changes in Patient Population at Community Hospital North

- Over the last 3 years, our staff nurses have voiced concerns over the changing needs of our patients.
- Staff expressed concerns over their abilities to adequately care for our patients.
- In April of 2009, we began collecting data on our "out of the ordinary" OB patients.

Patient Population: Data Collection

- From April of 2009 to present:
  - 23 Cardiac patients
    - 7 in SVT
    - 2 in Afib
    - 2 in First degree heart block
    - 4 with CHF
    - 6 with previous cardiac surgeries
    - 1 with history of MI, 1 MI occurred on our unit

- 14 patients with seizure disorders
- 12 patients with clotting disorders
- 5 patients with history of CVA
- 4 patients with history of or current PE
- 6 patients with DVT's
- 21 patients on Lovenox/Heparin therapy

Patient Population: Data Collection

- 99 patients with hypertensive disorders
  - 5 patients with HELLP
- 40 diabetics
  - 1 patient in DKA
- Other rare/interesting cases
  - Hemophilia
  - Renal Failure
  - Ulcerative Colitis
  - GI bleed
  - Gullian Barre
  - Systemic Mastocytosis

- Data collection confirmed our suspicions and anxieties: Now what?
  - Teamwork at the bedside on a case by case basis isn't enough
  - Teamwork extends beyond the bedside, partnerships formed with MD's, CRNA's, and other specialties
  - Greater efforts to prepare and educate staff and improve critical thinking skills

- Data presented to medical staff
- Advanced notice requested for any high-risk or potentially high-risk patient
- Coordinate and collaborate with anesthesia staff in preparing for arrival of potentially high risk patients

- Obstetrician scheduled c-section/hysterectomy for the main OR at 37 weeks
- Care coordinated with OR, Anesthesia, NICU, RT, ICU, and blood bank before patient was admitted
- Plan of care, along with admission orders, were placed on patient chart

Case Study: Placenta Increta

- Patient delivered as scheduled
- DIC during surgery
- Patient went to ICU for 24 hours after surgery
- Returned to OB, Mom and baby had a smooth recovery and were discharged on post op day 4

- Systemic mastocytosis is an autoimmune condition in which the body forms an abundance of mast cells which do not work properly. The patient can have an allergic reaction to just about anything at anytime.

Case Study: Systemic Mastocytosis

- Obstetrician alerted OB management and anesthesia staff about G2P1 with rare disorder to have a repeat c-section at 39 weeks
- Other complications: IDDM, history of CHF, AMA, obesity
- List of concerns and literature review placed with patient's prenatal history
- Anesthesia consult scheduled for 36 weeks

Case Study: Systemic Mastocytosis

- Patient admitted at 34 weeks with severe pre-eclampsia
- CRNA interviewed patient on admission, plan of care developed
- MD anesthesia consult ordered
- Cardiology consult ordered
- C-section and tubal ligation scheduled 2 days after admission

Case Study: Systemic Mastocytosis

- Uncomplicated surgery
- Hospital intensivist followed patient post-operatively
- Patient was discharged on post op day 4

Teamwork with other specialties

- OB team reached out to the cardiac team after a patient had an MI on our unit
  - Cardiac clinical nurse specialist brought in to de-brief staff involved in case
  - Attending cardiologist presented case study review at an OB staff meeting
  - MI patient returned to OB and spoke at a staff meeting about her experience

- OB team reached out to diabetes nurse practitioner
  - Staff meeting education
  - Chart reviews and on-the-spot education
- OB team reached out to critical care clinical nurse specialist
  - Staff meeting education

Teamwork with other specialties

- OB team reached out to ED team
  - Management from both departments actively involved in EMTALA policy review
  - Algorithm being developed to improve triage procedures for pregnant patients

Increased teamwork for staff education

- Perinatal clinical nurse specialist conducted post partum hemorrhage simulation drills across the network
- Simulation room designed on our unit
- OB high risk information gathered in education binder

Increased teamwork for staff education

- ALSO: Advanced Life Support in Obstetrics
  - American Academy of Family Physicians adopted the course in 1993 after it was developed by a team of physicians and nurses at the University of Wisconsin in 1991
  - It is an evidenced based course which teaches skills needed to manage common obstetrical emergencies

Increased teamwork for staff education

- ALSO is currently part of the family practice residency program at Community Health Network
- Some of the staff nurses at CHE have taken the course alongside the residents
- Plan to select more staff nurses to complete the program

Increased teamwork for staff education

- ACLS-OB program
  - 3 OB nurses with critical care background were selected to become instructors of ACLS-OB and train our staff
  - Program at Community North has received rave reviews from staff, physicians, and senior leadership

- Chrissie Humphrey, RNC, BSN
- Tracy Hess, RN, BSN
- Katie Ruth, RN, BSN

Introduction

- ***"Advanced Cardiovascular Life Support with an obstetric focus."***
  - ACLS certification by American Heart Association
  - Course based on 2005 AHA guidelines
  - ACLS OB developed by St. Luke's Medical Center (Boise, Idaho) which was developed with AHA ACLS guidelines.
    - ACLS OB includes all AHA ACLS guidelines plus additional physiologic and pharmacologic changes in pregnancy.

History

- Two nurses in Idaho, Katie Schimmelpfennig and Teresa Stanfill, started their research in 2003 and started teaching ACLS-OB in 2004.
- In 2006, they opened the class to the area and in 2007 they started marketing the class to the outside.
- At St. Luke's, they have taught about 500 providers.
- There are 30 facilities in 17 states currently offering this class.

Why ACLS OB?

- AWHONN & SOAP calling on maternity units to be up to date and practice current AHA ACLS guidelines
- The obstetric population is becoming more diverse, with more mature gravidas who are at increased risk for preterm labor, preeclampsia, gestational hypertension and diabetes, obesity and other chronic diseases, (Schimmelpfennig & Stanfill, 2006).
- Maternal cardiac arrest occurs in 1 out of every 30,000 pregnancies, (Finegold, 2006).

Why ACLS OB?

- "Maternal resuscitation is the best method for fetal resuscitation." –American Heart Association
- With our increase in high risk patients and higher acuity patients, we must be PREPARED as a unit to handle respiratory and cardiac arrest!
- Maternity Services currently requires all nursing staff to be BLS and NRP certified. If we require our staff to know neonatal resuscitation we also must require maternal resuscitation!

Overview of the ACLS OB Course

- Identification and treatment of medical conditions that place patient at risk for cardiac and respiratory arrest with emphasis on the obstetric patient.
  - Cardiac arrest, arrhythmias, acute coronary syndromes and stroke
  - Will review and expect each participant to be competent in BLS Primary Survey.
  - Modifications to standard CPR necessary when resuscitating a pregnant patient.

Overview of the ACLS OB Course

- ACLS Secondary Survey includes:
  - Rhythm identification practice
  - Algorithms
  - Team dynamics for effective resuscitation
  - Pharmacology review
  - Physiologic changes in pregnancy
  - ACLS resuscitation adaptations in pregnancy

Implementation

- American Heart Association Certified ACLS instructors:
  - Chrissie Humphrey, Tracy Hess, Katie Ruth traveled to South Bend in Jan. 2009; first class taught in Aug. 2009.
- Two day certification course @ CHN:
  - Currently we have certified 40 nurses
  - 2010 dates have been set, with marketing to outside participants
- Initial class was composed of clinical managers, full time charge nurses, and antepartum core staff
  - Classes have been around 10 students

Physician involvement

- This presentation was given at the October 2009 OB medical staff meeting.
- The physicians were offered the class in January and classes are scheduled in September.
- There have been 6 MD's take the class.
- Family Practice residents are scheduled to take ACLS-OB in June.
- We have also had staff from other areas take the class.

Implementation

- Staff will be required to recertify every two years, the same requirement for BLS.
- People involved with implementation:
  - Terri Will, CHI ACLS coordinator, Connie Penny & Bev Dove, clinical education and Maternity Services management
  - Close involvement with Memorial Hospital, South Bend, IN.

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