Department of Obstetrics, Gynecology and Reproductive Sciences

3rd year Global Health Rotations 2012-2013
The Department of Obstetrics, Gynecology and Reproductive Sciences at Mount Sinai offers a unique Global Health Resident track. All of our residents have the opportunity to take a 3rd year international elective during their Global Health block. In order to work abroad, residents first complete a preparatory course in Global Women’s Health. Here, residents receive an overview of Global Health issues affecting women in low resource settings such as maternal mortality, access to family planning, obstetric fistula, sexual violence against women, female genital cutting, and women’s human rights. Challenges that affect health care delivery abroad are underscored in this course. After course completion, residents submit proposals outlining the purpose and goals of their international elective at a site of their choosing with faculty supervision.

In the following pages, please find our 3rd year resident projects for the 2012 academic year. They will give you an idea of the breadth of sites and projects available during your third year Global Health block.

Our residents have the opportunity to complete projects at many diverse sites including:
Liberia
Guatemala
Honduras
El Salvador
Tanzania
Jamaica
Nicaragua
Dominican Republic

I look forward to working with you,

Taraneh Shirazian, MD
Director of Global Health
Department of Obstetrics, Gynecology and Reproductive Sciences
Global Health Project Proposals

Resident: Carolina Bibbo

Dates of Elective
5/2/2012- 5/20/2012

Site/Hospital Location
Guatemala, Lake Atitlan. Hospitalito Atitlan

Faculty Mentor: Taraneh Shirazian

1. Site and Clinical Activity Description

Dr Shirazian and Saving Mothers have been working in the Santiago region of Guatemala for the past 5 years. Through a small hospital there, Hospitalito Atitlan, which serves over 20,000 people and in outreach to the rural communities surrounding the small hospital we have developed a relationship and dialogue with the comadronas (traditional Mayan birth attendants) who deliver the majority of the infants born in the area. Their ongoing presence there has allowed us to form a formal relationship with the comadronas and to pilot our birth kits in this area. We have achieved much success in dispersing over 300 kits in this region using educational sessions to instruct on use and collecting feedback on how to improve the kits themselves. We have found that protocol based, low resource kits allow education of unskilled traditional birth attendants in a simple, formalized way that supplies them the tools needed with protocol at hand. We would like to expand on this success, by testing a hemorrhage kit, arguably more important for emergencies, containing resources more difficult to obtain in the area.

Hospitalito Atitlan has their local Guatemalan family doctors and they have 3 family medicine doctors from the US. There is a new local Ob-gyn who started to work there 2 days a week. Day to day, I went the Hospitalito Atitlan, attended rounds, and then worked in the outpatient ob-gyn clinic from 8-4:30. I participated in the care of the obstetrical patients. Every night I was on home-call and was called for obstetrical/gyn emergencies such has incomplete abs, severe pre-eclampsia, PPH, labor dystocias, c/sections, etc.

2. Project Description- Postpartum Hemorrhage Kits

Background and Significance

Situated just south of Mexico in Central America, Guatemala has one of the highest maternal mortality rates in Latin America. While the reported numbers indicate that there are 130 deaths per 100,000 live births UNICEF has adjusted this ratio for under-reporting and misclassification to 290 deaths. These rates are significantly higher than the average maternal mortality rate in Latin America at 94.7 per 100,000 live births. In Guatemala, PPH accounts for 53% of maternal deaths, followed by infection, hypertensive disease of pregnancy, and abortion (2). Among the deaths caused by hemorrhage, retained placenta is the most frequent cause (39.5 %), followed by uterine atony (26.8 %), non-specific uterine hemorrhage (16.4%), and ruptured uterus (8.3%). While 75% of the births in urban Guatemala are attended by a medical professional, only 25% of births in the rural areas receive such care (3). Instead, Mayan traditional birth attendants called comadronas provide delivery care to these expectant mothers in rural settings.
These birth attendants are typically untrained, respected women in the community who speak the local regional language, give emotional support to the pregnant woman, and attend births at the women’s homes (4).

It is crucial to implement evidence-based guidelines for the use of misoprostol to prevent and/or treat PPH. These guidelines need to be supplemented by training and ongoing education of providers emphasizing clear indications, dosing, routes and precautions with the use of misoprostol. One of the main concerns of the widespread use of misoprostol is that its easy access may deter women from seeking care by skilled providers or by attending health facilities.

We created an evidence based hemorrhage kit consisting of equipment demonstrated to decrease rates of maternal death from PPH. This kit was introduced to a rural community in Guatemala where we have been working over the last 4 years and have created and maintained a strong relationship with the local providers (birth attendants, physicians, social workers) and women.

**Specific aims**

1) Develop an evidence based low-cost hemorrhage kit to improve postpartum hemorrhage (PPH) management in low resource settings
2) Use simulator training to instruct birth attendants on management of PPH
3) Evaluate use of hemorrhage kits by birth attendants through pre/post assessment surveys

**Experimental Design**

Our hemorrhage kit consisted of sterile gloves, misoprostol, 10 lap pads, ring forceps, a small headlamp and a low-literacy pictorial protocol for management of PPH and referral to area hospitals (11, 12). Prior to the distribution of these hemorrhage kits we conducted simulator sessions with the local birth attendants. These simulator sessions simulated an episode of PPH in the community and instructed birth attendants on how to use the kits effectively in these instances.

The kit supplies will allow the birth attendants to identify PPH accurately through evaluation of blood loss with lap sponges. The hemorrhage kit will also allow the birth attendants to follow the pictorial protocol in sequence and perform the management maneuvers for PPH such as fundal massage and vaginal tamponade with lap sponges. Furthermore, special attention also be given to delivery of the placenta, as retained placenta is the most common cause of PPH in the region. Simulator sessions used for educating providers have demonstrated improved applied procedural kills and improved patient outcomes (13).

The birth attendants were tested in pre surveys about their knowledge and management of PPH and about use of the kits prior to being given kits. Our pre-assessment survey was a 10-question survey focusing on birth attendant knowledge about postpartum hemorrhage. The survey was be given orally, as many of the birth attendants speak a local dialect known as tzutujil, and we had a comadrona that helped as the translator. The survey specifically evaluated what maneuvers to perform and in what order, and what the knowledge and understanding is of the issues related to PPH.
PRE-ASSESSMENT SURVEY

1. What is the definition of postpartum hemorrhage?
2. What are the risk factors for postpartum hemorrhage?
3. How do you estimate or calculate blood loss?
4. What are the signs and symptoms of active bleeding?
5. What are the maneuvers to deliver the placenta intact?
6. What are the maneuvers to help with uterine contraction?
7. When would you call for help to stop bleeding?
8. How would you call for help to stop bleeding?
9. What are your techniques to stop postpartum hemorrhage?
10. How many of your deliveries have had postpartum hemorrhages?

After the simulator session, the attendants were given a post-assessment survey and were asked about their understanding of the kits, knowledge of the resources within the kits and feasibility of use. We will test knowledge of 4 key messages related to PPH and use of the kits.

3. Results

Our first outcome measure will be improvement in knowledge of PPH through simulation didactics. The pre and post survey questions (as discussed above) will assess the change in knowledge of the comadronas as it relates to our simulator sessions. We will identify 4 key messages related to PPH, (ie fundal message with delivery of the placenta) and will test comadrona knowledge after the simulation. The primary goal with educational sessions is that the camadronas understand use of the kits prior to implementation.

4. Survey Conclusions

The pre and post-assessment surveys were done orally since neither of the comadronas who attended the simulation sessions knew who to read Spanish. One of the comadronas was used as a translator from tzutujil to Spanish.

The simulations were attended by 22 comadronas total (12 the first simulation training and 10 the second day). 77% of the comadronas (17/22) had seen at least one episode of PPH. 90% of those had seen 2-3 episodes of PPH.

In terms of the definition of postpartum hemorrhage, 90% (20/22) of the comadronas could explain the definition of PPH using their own words. After the simulation, they better understood the quantity and estimated blood loss associated with a PPH and their able to use words such as dizziness, headache, chest pain to describe symptomatic anemia. After the training, they reported verbal understanding that after soaking the total of lap pads on the kit, a diagnosis of PPH was made.
Regarding the risk factors for postpartum hemorrhage, 82 % (18/22) of the comadronas reported long labor, 9% (2/22) lacerations, and 14 % (3/22) reported infection, they reported that as soon as their patients start prodroming they go to their houses and can spend with them approximately 3-5 days. None of them refer to uterine atony and only 1 comadrona refered to retained placenta or products as a risk factor for PPH prior to the training. After the simulation training 68 % (15/22) were able to explained that retained placenta is a risk for PPH.

In terms of maneuvers for placenta delivery, 82 % (18/22) of the comadronas described external fundal massage to help with spontaneous placental delivery. Only 1 comadrona knew to apply suprapubic pressure. There was no particular technique associated with umbilical cord traction to delivery an intact placenta. After the simulation training, there was a better understanding of fundal massage (90%) and of suprapubic pressure (41%, 9/22) and of gentle cord traction with gentle pulling on the placenta to allow for complete delivery of membranes at the introitus (59%, 13/22)

None of the comadronas did bimanual massage to help with uterine contractions. They did fundal massage, but no internal bimanual massage. They were concerned about introducing their hands and increasing the risk of infection. After the simulation training, 90% of the comadronas could demonstrate bimanual massage using the sterile gloves in the PPH kit. They could describe the uterus as being a rock, once firm and well contracted.

100% of the comadronas knew to call for help after they noticed a PPH. 77 % (17/22) had cell phones and they would use local transportation to take their sick patients to the local health facility.

In terms of techniques to stop PPH, 90% reported fundal massage. The rest, 10%, couldn't verbalize or describe any techniques. After the simulation training, 100% reported fundal massage, 73 % (16/22) reported bimanual massage, and 64% (14/22) reported packing with laps.

Some of the main conclusions are that the use of the simulation training sessions has improved the understanding of PPH among the local traditional birth attendants. The comadronas were able to better understand risk factors, maneuvers for delivery, and techniques to deal with PPH. The direct training on the MamaNatalie model allowed them to practice those techniques and demonstrate their knowledge.

5. Next Steps

After demonstration of clear understanding of PPH management and the use of the kits, 50 pilot kits will be dispersed to qualifying comadronas who have already been instructed on how to use the hemorrhage kit to identify PPH. These kits will be tracked, in order to follow up use of the kits. A referral system to the local hospital will be set in place for referral once a PPH is identified. The kit is used simply as a temporary solution until referral to the hospital is made.

Each kit will be tracked by our local Guatemalan community liason. He will collect data on specific maternal outcomes by comadronas that have used the kits. We will look at comadrona recognition of PPH, appropriate management of PPH and appropriate referral when indicated. We will also look at maternal outcomes such as hospitalization and length of stay, transfusion, need for other surgical techniques to manage PPH and maternal death. We will follow these outcomes over the course of 1 year to assess whether these kits have changed ultimate maternal outcomes. As the known incidence of PPH recorded by the local hospitals is roughly 10% we may need to distribute more kits, as the comadronas have demonstrated appropriate training, in order to determine these outcomes.
4. Beliefs and Rituals in Traditional Birth Attendant Practice in Guatemala. [http://tcn.sagepub.com/cgi/content/abstract/17/2/148](http://tcn.sagepub.com/cgi/content/abstract/17/2/148)
8. CMQCC, Obstetric Hemorrhage ToolKit; obstetric hemorrhage care guidelines and compendium of best practices, 2009
Resident: Julie Romero

Dates of Elective
4/1/12-4/18/12

Site/Hospital Location:
Redemption Hospital, Monrovia, Liberia

Faculty Mentor: Taraneh Shirazian

1. Site and Clinical Activity Description

Redemption Hospital is a large public hospital in Monrovia, Liberia which serves many patients from Bushrod Island and areas north of Monrovia. It is a full service hospital with Medicine, Surgery, OB/GYN and Pediatrics services. It also has a busy outpatient department with urgent care, antenatal, TB and HIV clinics. The hospital is owned by the Ministry of Health and Social Welfare in Liberia. It also receives support and funding from the International Rescue Committee and supplies from UNICEF. Services at Redemption Hospital are free to patients, and there are no fees for services rendered.

Redemption Hospital has an inpatient obstetrical ward, OB outpatient department, GYN outpatient department, and inpatient GYN ward. The OB ward consists of: antepartum service mixed with postpartum patients, postoperative ward, and labor ward. The antepartum/postpartum ward has approximately twenty beds, however most beds have double occupancy, depending on the total number of admissions. The admissions range from cases of unsafe abortion, preeclampsia/eclampsia, antepartum hemorrhage, malaria in pregnancy, and routine postpartum patients. The postoperative ward has twenty beds, and the labor ward has ten beds. There are three delivery beds in the delivery room that are used for all procedures done on patients in the OB ward including normal routine deliveries, wound dressing changes, MVAs and management of postpartum hemorrhage. The labor ward delivers approximately 300 to 350 patients each month. The GYN ward has ten beds.

During my time at Redemption, my daily schedule will be:
8-11 am: Midwife Work Rounds (ensuring partographs performed correctly, assigning cases to midwives, and training midwives in standard of care regimens)
11 am- 12:30 pm: Teaching Rounds with the OB/GYN intern and resident
1:30 – 3 pm: Ultrasounds and bedside procedures
3 – 4 pm: Sign out rounds

Plans for improvement in the care provided at Redemption will focus on the basics on the ward. The aim is to create a more structured environment for the midwives, intern and postgraduate doctor. This will be attained through teaching of partographs to midwives, creating a more organized framework for rounding and patient care, and organization of charts to decrease medical errors.
There is a need for general teaching and training of all providers at Redemption Hospital. The intern and postgraduate doctors need training in basics of management of obstetrics, gynecology, and basic surgical skills, while the midwives need refresher training in all obstetrical issues. I will lead a 15 minute lecture series covering all major obstetrical issues, starting with basics of monitoring patients, partographs, followed by basic obstetrical emergency care (hemorrhage, hypertensive emergencies, fetal and maternal distress), and complicated obstetrical care. The lectures will be given to the midwives Monday through Thursday. All midwives will take pre- and post-test exams to assess knowledge gained through the lecture series.

There will be hands-on teaching and training of procedures in the OR and on the wards with a focus on ectopic pregnancy surgery, cesarean sections, MVAs, and ultrasound. I will also hold a weekly Monday night dinner lecture series/journal club for the interns and postgraduate doctors.

2. Project Description

   a. Background and Significance

Since preeclampsia represents 18% of maternal mortality worldwide, and is the number two cause of death of women worldwide, my project will focus on the diagnosis and management of these conditions at Redemption Hospital. According to systematic reviews and WHO guidelines, magnesium sulfate (MgSO4) should be the first-line treatment for severe preeclampsia and eclampsia. WHO guidelines recommend magnesium sulfate 4g IV loading dose, then 10g IM, followed by 5g every four hours for 24 hrs after delivery. WHO also recommends use of oral medications such as methyldopa and atenolol, and IV medications such as hydralazine for hypertensive emergencies. Studies have shown that these safe and effective medications are underutilized in many resource poor countries. The cause for this underutilization is multifactorial. Underutilization of these medications may be due, in part, to lack of supplies such as infusion pumps and urine dipsticks, and shortage of antihypertensives, and because of lack of provider understanding of the algorithms used to diagnose and treat preeclampsia and eclampsia.

   b. Objective To better understand how preeclampsia and eclampsia are diagnosed and treated at Redemption Hospital
c. **Specific aims**
- Assess providers’ understanding of diagnosis and treatment of preeclampsia and eclampsia, and determine whether it is in accordance with WHO guidelines
- Identify potential barriers to diagnosis and treatment of preeclampsia and eclampsia
- Understand the utility of low resource tests (e.g. use and interpretation of urine dipsticks, BP monitoring) to aid in diagnosis
- After gathering information on current understanding and management of preeclampsia, will create a flowchart with the local providers to improve diagnosis and treatment

d. **Experimental Design**
   Interview the two local Liberian practicing OB/GYNs (Chief Medical Officer and Chief of OB/GYN at Redemption) regarding the perceived strengths and challenges of diagnosing preeclampsia at Redemption
   - Give pretest to providers who work at Redemption (midwives and interns/residents):
     1. How do you diagnose preeclampsia?
     2. Which tools do you use to diagnose preeclampsia?
     3. How do you treat preeclampsia?
     4. Why do we treat preeclampsia?
     5. What barriers do you have in diagnosing and treating preeclampsia?
   - Give separate lectures to midwives and interns/residents on diagnosis and preeclampsia
   - Give posttest to providers
   - With the help of the local providers, create a flowchart depicting diagnosis and treatment of preeclampsia

3. **Results**
   a. Interviews/experience with local providers

   1. How do you diagnose preeclampsia?
      (Head midwife) BP 140/100, 2+ protein, edema
      (Intern) BP 140/90, proteinuria
   2. Which tools do you use to diagnose preeclampsia?
      BP cuff, urine dip is done if BP is high
   3. How do you treat preeclampsia?
      Deliver. Magnesium sulfate 10g IM x 1 followed by 5g IM q4h
   4. Why do we treat preeclampsia?
      (Head midwife) Mom and baby can die if untreated.
5. What barriers do you have in diagnosing and treating preeclampsia?
   (Head midwife) Doctors don’t listen to midwives when it is time to induce; the patient volume is too high for so few midwives; critical patients are not adequately signed out to other shifts; laboratory unable to run chemistry labs
   (Intern) Nurses don’t measure BPs at regular intervals; the BP cuff is often not functional; if doctor writes an order for Magnesium sulfate or antihypertensives, the medication is often not given by nurses and there is no reliable way to know whether it was given; nurses don’t escalate or start magnesium sulfate on their own even in cases of eclampsia; patients admitted to antepartum room are sometimes lost and not rounded on, so action is not taken when delivery is indicated; there is no reliable system for keeping track of patients, the majority of patients are not rounded on
   (Attending) It is a human resource problem; ideally BP should be taken every 15 minutes, however in practice it is taken a maximum of twice per day; we need more nurses and better quality nurses that we can trust; medications often not available, especially at night when the pharmacy is closed; eclamptic patients are sometimes managed expectantly (not delivered) if preterm because of high mortality of preterm infants in Liberia

4. Conclusions

At Redemption Hospital, providers have satisfactory understanding of diagnosis and treatment of pre-eclampsia, however they must practice within the constraints of the current hospital system which has a poor organizational infrastructure.

5. Future Directions

Future teams should focus on ways to better organize patient rounding as well as documentation and medication administration records. Dr. Erika Wasenda will go to Redemption Hospital in August to continue this work. The women of Monrovia will benefit from this work as they will ultimately receive better obstetrical care.
References


Resident: Martina Taylor

Dates of Elective:  
12/31-1/22/2012

Site/Hospital Location:  
Phebe Hospital, Liberia

Faculty Mentor: Lisa Rehwaldt

1. Site and Clinical Activity Description

Phebe Hospital, in Bong County, Liberia, is an approximately 200 bed regional medical center that provides care to a catchment area of approximately 300,000 people. It is a "full-service" facility, in Liberian terms, where the physicians provide all types of basic medical care. The presence of Mt. Sinai physicians allows for the education of Liberian health care providers as far as more complicated procedures is concerned and establishment of basic systematic programs for obstetrics, gynecology and surgery.

After completing medical school in Liberia, students complete a one year Internship after which they are sent to outlying posts. There is no opportunity for specialized training. Presently, interns and occasionally Liberian medical students are rotating through Phebe Hospital, which will allow them under Mt. Sinai tutelage to be exposed to simple and more complicated gynecologic and surgical procedures. In Gynecology over the past four years at Phebe Hospital, the emphasis has shifted from provision of patient care, to training of local physicians in Gynecological procedures. Local physicians are trained in a methodical way how to perform hysterectomies, myomectomies and cystectomies including how to minimize blood loss, identify ureters and minimize infections. Attention has also been on team building, improved communication and better identification and mobilization of emergent obstetrical procedures. Also during prior missions, there was an attempt to correlate radiographically what was seen on X-ray or sonogram with
what was appreciated clinically on physical exam and what is found at time of surgery. The team also works closely with nursing placing emphasis on improved monitoring in immediate post-operative care in Recovery Room, again emphasizing communication during hand-off.

2. Project Description

a. Background and Significance.

The republic of Liberia is located on the western coast of Africa. Liberia is recovering from a 14year civil war, which devastated the economy and contributed to the collapse of the healthcare system. The country faces many challenges in the areas of reproductive/maternal/child/mental health and important to our surgical team, challenges in surgical safety. Site specific surgical safety issues include incorrect instrument counts, improper identification of blood bank products, proper patient identification and timely administration of pre and intra operative antibiotics.

b. Objective- As listed above, one of Liberia’s key health indicators is surgical safety. The objective of my project is the implementation of an intervention to decrease adverse perioperative outcomes.

c. Specific Aims :

1. Identify the barriers to improving surgical safety
2. Identify what is currently being done to assist in the area of surgical safety by whom and where
3. Identify how well were those needs addressed in the past
4. Decrease adverse outcomes

d. Experimental Design- How will you go about answering your question? How will the research be carried out?

A chart review will be performed, in which the records from January 2011 to June 2011 will be reviewed. Incidence of surgical-site infections, unplanned return to the operating room, death and other complications will be documented. The surgical safety policies in place at Phebe before the beginning of the study will be reviewed. The World Health Organization’s Surgical Safety Checklist (see attached) will be implemented with site-specific modifications. Surgical outcomes will then be documented from January 2012 to June 2012 and will be compared to the outcomes from the exact time period in 2010. An additional 6month comparison of adverse outcomes will be performed.
3. Results

a. At this time there are no preliminary results as the comparison period listed in the methods section (January to June of 2012) has not ended

4. Conclusions see above

5. Future Directions

If our study suggests that the W.H.O. surgical safety checklist improves peri-operative outcomes, future teams could ensure that the safety list becomes integrated into the normal surgical flow. These findings will benefit the surgical female population of Phebe as it could decrease morbidity and mortality.

References

1) Bulletin of the World Health Organization 2010; 88: 527-534
6) "Date: Life expectancy at birth, total (years)”. World Bank. http://data.worldbank.org/indicator/SP.DYN.LE00.IN.
Table 1. Elements of the Surgical Safety Checklist.*

<table>
<thead>
<tr>
<th>Sign in</th>
</tr>
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<tbody>
<tr>
<td>Before induction of anesthesia, members of the team (at least the nurse and an anesthesia professional) orally confirm that:</td>
</tr>
<tr>
<td>The patient has verified his or her identity, the surgical site and procedure, and consent</td>
</tr>
<tr>
<td>The surgical site is marked or site marking is not applicable</td>
</tr>
<tr>
<td>The pulse oximeter is on the patient and functioning</td>
</tr>
<tr>
<td>All members of the team are aware of whether the patient has a known allergy</td>
</tr>
<tr>
<td>The patient’s airway and risk of aspiration have been evaluated and appropriate equipment and assistance are available</td>
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<tr>
<td>If there is a risk of blood loss of at least 500 ml (or 7 ml/kg of body weight, in children), appropriate access and fluids are available</td>
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<tr>
<th>Time out</th>
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<tr>
<td>Before skin incision, the entire team (nurses, surgeons, anesthesia professionals, and any others participating in the care of the patient) orally:</td>
</tr>
<tr>
<td>Confirms that all team members have been introduced by name and role</td>
</tr>
<tr>
<td>Confirms the patient’s identity, surgical site, and procedure</td>
</tr>
<tr>
<td>Reviews the anticipated critical events</td>
</tr>
<tr>
<td>Surgeon reviews critical and unexpected steps, operative duration, and anticipated blood loss</td>
</tr>
<tr>
<td>Anesthesia staff review concerns specific to the patient</td>
</tr>
<tr>
<td>Nursing staff review confirmation of sterility, equipment availability, and other concerns</td>
</tr>
<tr>
<td>Confirms that prophylactic antibiotics have been administered ≤60 min before incision is made or that antibiotics are not indicated</td>
</tr>
<tr>
<td>Confirms that all essential imaging results for the correct patient are displayed in the operating room</td>
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<th>Sign out</th>
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<tr>
<td>Before the patient leaves the operating room:</td>
</tr>
<tr>
<td>Nurse reviews items aloud with the team</td>
</tr>
<tr>
<td>Name of the procedure as recorded</td>
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<tr>
<td>That the needle, sponge, and instrument counts are complete (or not applicable)</td>
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<tr>
<td>That the specimen (if any) is correctly labeled, including with the patient’s name</td>
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<tr>
<td>Whether there are any issues with equipment to be addressed</td>
</tr>
<tr>
<td>The surgeon, nurse, and anesthesia professional review aloud the key concerns for the recovery and care of the patient</td>
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* The checklist is based on the first edition of the WHO Guidelines for Safe Surgery. For the complete checklist, see the Supplementary Appendix.
Resident: Rachel Barr

Dates of elective
2/13/2012- 2/26/2012

Site/Hospital Location
San Salvador, El Salvador

Faculty Mentor: Miriam Cremer

El Salvador See-and-Treat Program

1. **Site and Clinical Activity Description** Basic Health International (BHI) is an organization based in El Salvador that focuses on decreasing cervical cancer rates through screening programs\(^1\). BHI provides both cervical cancer screening to a rural population in San Salvador and trains local physicians and nurses to perform cervical cancer screening techniques. The main technique that they utilize is a see-and-treat approach using visual inspection by acetic acid and cryotherapy treatment. My trip will be divided into two parts. During the first week I will learn to use this modality by screening patients in the field. I will go to clinics with the head BHI doctor and see patients with her and her colleagues. The second part of the trip I will be training other providers on how to perform VIA and cryotherapy. Interspersed with these activities I will be conducting an acceptability survey of practitioners that were previously trained by BHI.

2. **Project Description**

   a. **Background/Significance**

   The see and treat program run by BHI emerged out of a growing need to find a way to screen patients for cervical cancer in a low-resource setting. While resource-rich countries were able to decrease cervical cancer rates by 80% by implementing PAP smear screening, poor countries are unable to provide this test broadly.\(^2\) The need for a low cost cervical cancer screening program was especially important in El Salvador, which has a cervical cancer incidence of 45.6/100,000 and a mortality rate of 23.5/100,000. These are some of the highest incidence and mortality rates from cervical cancer in the world.\(^3\)

   There are several obstacles to performing cytology-based screening in low resource settings. To diagnose and treat a precancerous lesion using this model it requires multiple visits with a health care provider, expensive colposcopy equipment and trained pathologists who can interpret pap smears and pathology specimens.\(^4\) This is not a model that can be easily and inexpensively extended to rural settings where running water and electricity may be scare. Furthermore, in order for this screening method to work patients must be recalled for follow up which is difficult in rural settings where they must travel long distances to see a doctor.\(^5\)
An alternative method to cytology screening is see-and-treat screening using visual inspection with acetic acid (VIA) paired with cryotherapy. Acetic acid is applied to the cervix and aceto-white areas are visible to the naked eye. Lesions can then be treated using cryogenic therapy. VIA can be performed with as little as a speculum, cotton swabs, vinegar and a light and costs less than $1. This is almost 7 times less than the cost of a pap smear in developing countries. In studies comparing VIA to pap smears, VIA was found to have a higher sensitivity but a lower specificity. VIA is both accurate and inexpensive to use.

When a precancerous lesion is identified it can be treated with cryogenic therapy, negating the need for follow up visits for treatment. Cryotherapy can be performed immediately following VIA and is also inexpensive and safe. In a metanalysis that compared loop excision, cone biopsy, laser conization and cryotherapy, no technique was found to be superior in treating precancerous lesions. Therefore cervical lesions can be removed in a manner that is safe and efficacious without needing surgery, which is ideal for a rural low-resource setting.

b. Objective

While the single-visit approach using VIA and cryotherapy have been shown to be more cost effective and easier to implement in developing countries it is also crucial that patients are accepting of these procedures and are willing to have them performed. In a study performed in Thailand over 95% of patients were satisfied with this method. During the upcoming year BHI will be conducting an acceptability study of the VIA method in their community. The project will survey medical professionals who were previously trained in use of the VIA screening method to understand how accepting they and their patients are of the method. The survey will also help to better appreciate how they are using their training in the field and any challenges they have encountered. It will be conducted in one-on-one interviews with providers using a questionnaire that will be translated into Spanish.

c. Specific Aims

BHI will use the results to update and improve their VIA and cryotherapy training course. If there are major problems with acceptability of the technique they will develop specific curricula in their training course to address them. It is anticipated that there will be a high acceptability of this method in their community. If so, BHI hopes to use this data to promote the expansion of the use of VIA/cryotherapy throughout El Salvador.
**d. Experimental Design**

The first phase of the study will be conducted using a subset of the sample population to validate the survey questions. The individuals who will be interviewed will be selected by the BHI staff. I will be administering the validation survey during my trip and then the BHI staff will create their final version of the survey using the data we collect during my trip. The English version of the survey is attached to the proposal.

**3. Results**

During my two weeks in El Salvador I participated in see-and-treat colposcopy clinics at various cities throughout the country. The clinics were set up at churches, schools, and hospitals using portable equipment and medical supplies. A liaison to the community encouraged women to sign up ahead of time for a visit and several of the clinics attracted more than 80 women per day. The set up was simple and efficient. Tarps were hung from the ceiling to divide the space into exam rooms and a changing area and after speaking with a nurse the patient would change and enter the exam room. A brief history was taken and recorded on a slip of paper and a log of all the patients was kept to facilitate follow up. Patients were identified and tracked by their full name only. The patient would lie on a portable exam table and was examined using a metal speculum cleaned with bleach. A small lamp provided adequate lighting and a step stool doubled as a chair. The cervix was washed with acetic acid and examined for pathology using the VIA technique. If no transformation zone was visible a pap smear was performed. If there was an acetowhite lesion a biopsy was taken and cryotherapy performed. BHI would then follow up the pap and biopsy results with the patients at a subsequent visit to the city.

The first week of clinic incorporated a course to teach VIA and cryotherapy to non-gynecologist medical professionals. I was one of the teachers and helped the students learn to recognize normal and abnormal cervical exams and to perform cryotherapy. It was an extremely rewarding experience.

I spent one morning administering the validation survey to a group of health care providers known as health promoters. The health promoter plays an important role in the community providing basic health care and health education to the public. The promoters completed a brief survey of cervical cancer screening knowledge and demographic information and then I led a focus group using a Spanish translator. We discussed community participation in cervical cancer screening programs, barriers to participation and which groups they think participate most often.

The promoters felt that the biggest barrier to participating in screening is lack of transportation or inability to pay for transportation. There is also fear of the results and being told they are
sick, embarrassment during the exam, and fear that the instruments may transmit disease. They discussed that some men may not support their wives being screened because if they have cervical disease the husbands might be accused of giving them HPV and adultery. The promoters described their role in providing women’s health education to their patients and what questions are most common. The session helped delineate the health promoters’ role in women’s health in the community and what barriers to screening need to be overcome in the future.

4. Future Directions

Further focus groups and surveys will be administered with more groups of health promoters in different communities throughout the country to complete the validation portion of the study. The actual study can then be created and administered during another visit to El Salvador. There are also other studies that BHI is currently performing that future residents could participate including a new study that is looking at HPV testing.

References:
VIA Survey

Thank you for participation in our survey. All answers are anonymous.

Please circle your answer to the questions below:

Age:  <18  19-29  30-39  40-49  50-59  60-69  >70

Gender:  Male  Female

Job Title:  Nurse  Physician  Midwife

Number of years you have used VIA:  <1  1-2  2-3  3-4  4-5  >5

Number of times each week you use VIA:  <5  5-10  10-20  20-30  >30

If you are not using VIA in your practice, what is your reason? (Circle all that apply):

Difficult to Use  Not accepted by patients  Cost  Too timely  Prefer Other Method

Please comment further on why you do not use VIA:

Number of times each week you use cryotherapy:  <1  2-6  6-9  >10

If you are not using cryotherapy in your practice, what is your reason? (Circle all that apply)

Difficult to Use  Not accepted by patients  Cost  Too timely  Prefer Other Method

Please comment further on why you do not use cryotherapy:

How easy do you find VIA/cryo to use in your setting?

Very Easy  Easy  Moderate  Somewhat Difficult  Very Difficult

Please describe any problems you encounter when using VIA/cryo in your setting:

How accepting are your patients of VIA use?  Accepting  Hesitant  Resistant

Please describe reasons that your patients have refused screening with VIA:

How satisfied are your patients with VIA/cryotherapy?

Very Dissatisfied  Dissatisfied  Neutral  Satisfied  Very Satisfied
Resident: Erika Wasenda

Elective dates
7/30/2012-8/17/2012

Hospital/Site:
Redemption Hospital, Monrovia, Liberia

Faculty Mentor: Yvonne Butler

Redemption Hospital is the largest public hospital of Liberia, servicing >1 million people. It offers a wide range of services including Pediatrics, Obstetrics, Medicine and Surgery. The hospital was reopened in 2003 after a devastating civil war and is now working on rebuilding and training its staff. The hospital provides medical care for free to Liberian citizens and receives no direct funding from the government but rather is donor funded, with support from the World Bank. Supplies are donated by the Red Cross and Unicef.

Project description

a. **Background/Significance:** In the United States, the Joint Commission identified poor communication as the reason for 70% of adverse patient outcomes between 1995 and 2005. A culture of teamwork and communication can lead to better patient outcomes and is essential for safe team functioning.

On the day-to-day basis, I will be working in close proximity with the midwives/residents. I hope to actively participate in patient care and encourage "rounding" for proper patient sign out and transfer of care. In speaking with practitioners with prior working experience at Redemption Hospital there appears to be a general need for patient identification and tracking. Additionally, work rounds need to have better implementation.

My aim is therefore to provide a more structured working environment for the medical staff, in addition to assisting with chart organization to decrease medical errors. I hope to provide a model in which to deliver competent obstetrical and gynecological medical care. I would like to implement visual techniques to keep track of patients using color in the very least, but adding in numbers and letters if necessary. For example, OB patients would be designated in red and gynecology in blue. If this in its simplest form aided identification of patients, the color spectrum could then be broadened to represent subsets within each category (ie: green=preeclampsia, yellow=abortion, etc.). A color-coded floor plan (via use of magnets, velcro) of the ward could then be used during daily rounds to facilitate patient identification and subsequent discussion of management. This concept could then be elaborated to color-coding patient charts or even ID bands.
b. **Objective:** To establish a patient identification system on the Ob-gyn ward to facilitate patient identification and thus provide a safer medical environment.

c. **Specific aims:**

1. Assess current patient identification systems at Redemption Hospital
2. Identify potential barriers to proper patient identification
3. Attempt modification and/or implementation of an organized patient identification flow sheet with the aid of local providers to improve patient identification and thus medical management for patients at Redemption Hospital

d. **Experimental design:**

1. Will attend daily work rounds with midwives/Obgyn intern/residents/attendings.
2. Will discuss with local providers their perceived strengths/weaknesses of current patient identification system
3. Will identify challenges to current patient identification system
4. Will attempt implementation of patient identification/tracking with a template (see attachment) through the use of magnets/velcro attachments to apply to the bed for patient identification
5. Will discuss implementation of SBAR and handoff of patient care. Will guide the process to include the following as recommended per ACOG: 1-interactive communication 2. Limited interruptions 3. Process for verification 4. Opportunity to review relevant historical data

e. **Results:** A laminated floor plan of the hospital wards was produced on 8 ½ x 11 in paper which the interns/residents carried during rounds. High risk or complicated patient's initials were color coded with dry-erase marker according to the condition they fell under (ie: red=pre-eclampsia). This was referred to during the day and especially during the change of shift to remind the oncoming teams which patients to follow-up on.

f. **Conclusions:** Although further work is necessary to aid in establishing a concrete patient identification system, the first steps to implement safer patient care were established.

g. **Future directions:** Future teams can reinforce the necessity of identifying complicated patients that need to be followed closely. They can establish a large floor plan placed centrally that all healthcare teams can have access to allowing for clear and quick patient localization. In addition, a system to have patient charts also color coded and localized at the foot of each bed would greatly aid in efficient patient care.
References

5. WHO. Medical Records Manual: A guide for developing countries. 2002
6. ACOG Committee Opinion. Communication Strategies for Patient Handoffs