

**MOST COMMON WOMEN'S REPRODUCTIVE HEALTH PROBLEMS IN THE
GYNECOLOGY WARD OF THE ROYAL VICTORIA TEACHING HOSPITAL,
BANJUL, THE GAMBIA**

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ABSTRACT

Women's reproductive health is a field which has been overlooked in many African countries throughout history. Focus on women's health is focus on the well-being of half of a society, and thus should be focused upon in order for development to be successful. I carried out my research in the gynecology (GAMTEL) ward of the Royal Victoria Teaching Hospital (RVTH) in Banjul, The Gambia—a small country surrounded by Senegal in West Africa. After twelve weeks of data collection, I compiled the top five most common women's reproductive health issues encountered within RVTH. These data were then compared to prevalence in the United States, and subsequently, reasons for their higher incidence in The Gambia were suggested if the rate was indeed higher in The Gambia than that in the US. The top five women's reproductive health issues were, according to prevalence, miscarriage (34%), ectopic pregnancy (11%), cervical cancer (10%), uterine fibroids (7%), and hyperemesis gravidarum (7%) (n=203).

Key Words: women's reproductive health, The Gambia, cervical cancer

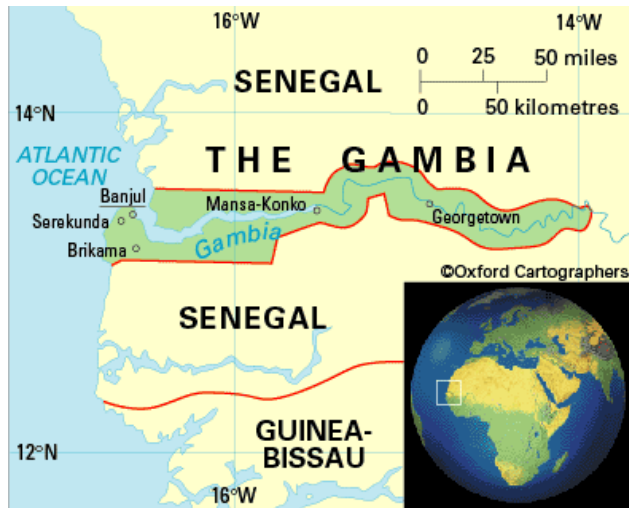


Figure 1. Map of The Gambia.
http://www.thecommonwealth.org/Shared_ASP_Files/UploadedFiles/%7B95B0593B-0FD9-4E1C-B6B8-76803AFCFF9C%7D_Gambia.gif

INTRODUCTION

The first time I stepped foot into the gynecology ward of the Royal Victoria Teaching Hospital (RVTH) in the capital city of Banjul in the West African country of The Gambia, I knew that my life would never be the same. After introducing myself and my mission to Sohna, the ward's head

nurse, I was rushed into an outpatient procedure room where a vaginal exam was being carried out. There I was, not five minutes into my internship, watching a pelvic exam. This would turn out to be a typical day on the job at RVTH—go on rounds with the doctors, nurses, and students, take notes, ask questions, and see more graphic examinations than I ever thought possible. These examinations save lives, save families, and save futures. In retrospect, I would not trade these experiences, among countless others, for the world.

The lessons I have learned at RVTH will certainly shape my future, both personally and professionally. The diseases that I have seen, the cancers that I have watched progress, and the beauty of new life growing and born are things that I would never have experienced had I not stepped out of my comfort zone and into the world of medicine in West Africa. Each and every day that I spent at RVTH presented to me something which I had never before seen. Whether it be a uterine evacuation of a woman suffering from an incomplete miscarriage, the pure shock upon the face of a daughter

being told her mother's prognosis, or the unabashed excitement upon the face of a woman seeing her growing baby's heartbeat on an ultrasound for the first time; each new experience was a rush of emotion, a surge of pure adrenaline. Each and every day reassured me that this is what I am called to do for the rest of my life.

THE ROYAL VICTORIA TEACHING HOSPITAL



Figure 2. Inside the gates of the Royal Victoria Teaching Hospital, Banjul., The Gambia
<http://www.rvth.org/images/IM000580.JPG>

The Royal Victoria Teaching Hospital (RVTH) is a government-run facility located in the heart of The Gambia's capital city of Banjul. Each and every one of its 540 beds is typically occupied, with additional patients scattered outside, awaiting their turns to be seen. The RVTH works

in close conjunction with the University of The Gambia School of Medicine as well as the Gambia College of Nursing and Midwifery; as a result the hospital is constantly teeming with future doctors and nurses, eager to see a rare infection or disease. Because RVTH is the biggest and best equipped government medical facility in The Gambia, patients are referred from smaller clinics and hospitals throughout the country to be seen and treated. Consequently, the hospital sees a wide spectrum of medical issues, from the most common to the most rare. Doctors from all corners of the world—from Nigeria to Taiwan to Cuba—come to treat patients at RVTH. Because of the severe shortage of

doctors in The Gambia, the two-year rotations of these international physicians are critical to the integrity of the hospital; and their work is greatly appreciated by both hospital personnel and patients alike.

I literally had no idea what to expect as I stepped through the green and tan gates of the Royal Victoria Teaching Hospital. I pushed my way through the crowds of people standing at the guard post, explained to the watchmen that I was working in the GAMTEL ward, and emerged on the other side. From day one, I knew that this was going to be much different from volunteering in hospitals in the United States. For the past three years, I had been volunteering in various departments of St. Mary's Hospital (SMH) in southern Maryland. As is the case with most suburban hospitals in the United States, the departments at SMH are relatively quiet, immaculately clean, and meticulously coordinated. I had to go through excessive amounts of red tape to have any sort of patient interaction, and in my three years was never allowed to take vital signs or watch a surgery. In my experience, American patients are anxious to be seen, complain after waiting for more than five minutes, and are incredibly demanding of any sort of attention. The RVTH could not be more different.

As mentioned earlier, within my first five minutes at RVTH, I was observing a vaginal examination. "Sarah, come in here," I was instructed. Without any idea of what was going on, I followed the nurse into a tiny exam room where four other nurses were standing around a patient who could not have been more than twenty years old. I stood wide-eyed as the nurses poked and prodded and called out their suggested diagnoses by the light of an old desk lamp. The patient seemed to pay me no attention as she winced and squirmed in discomfort. When the exam was complete, I emerged from the room,

astounded yet intrigued. As my first day progressed, I saw more and more anomalies, diseases, and distressed women from all over the country. Every single day of my twelve week internship at RVTH would continue to astound and intrigue me more than I could have ever imagined possible.

WHY GYNECOLOGY?

When I first arrived in The Gambia, I was certain of only one thing—that I wanted to study some aspect of women’s healthcare in the country. I have been interested in the field of gynecology ever since I watched a documentary-style drama on ovarian cancer in the eighth grade. The film, *Wit*, followed the rapid progression of the cancer in a relatively young British woman and very emotionally depicted the great tragedies that cancer bestows upon the human race. As cliché as it may sound, from that moment on I felt compelled to go into the field of gynecology. Combined with my own experiences with impersonal and unprofessional gynecologists in the United States, these incidences led me to desire to change the negative connotation typically associated with gynecology and aspire to become a great OB/GYN myself.

Before leaving for The Gambia, I did some preliminary research in order to narrow my research topic. I discovered an abundance of issues associated with women’s healthcare in developing countries, and especially in Africa. I came across website after website depicting women in the Third World as forgotten and neglected in terms of healthcare. When I discovered the remarkable size of the gynecology department at RVTH, I knew exactly where I wanted to spent my service learning hours.

When I finally saw the GAMTEL ward with my own eyes, I was overwhelmed. Every single bed in the ward was filled, doctors and nurses ran from bed to bed, and tragedy after tragedy entered the ward. I saw four cases of miscarriage on my first day alone and quickly realized that miscarriages are extremely common in The Gambia. As a result, the subsequent procedure (called a uterine evacuation or, more commonly simply “evac”) which is necessary to prevent an associated infection is crucial for the health of the patient and carried out numerous times each and every day at RVTH. As time went by, I came to realize that many of the complications which frequent the GAMTEL ward are not nearly as commonly encountered elsewhere in the world. As one visiting doctor from Sweden told me, the things that I have seen here in my brief time at RVTH are things that I could see nowhere else in the world and will probably never see again. “The things you have seen here so many times are the types of things I ring my friends about if I see them at home,” he said. Additionally, the treatments of these otherwise unheard-of diseases are generally expensive, complicated, and/or simply unavailable in a developing country such as The Gambia. As a result, I decided to focus my research on the most common women’s reproductive health issues encountered in the GAMTEL ward, determine how my results compare to those from other African countries, and how their prevalence contrasts to the United States.

TWELVE FUN-FILLED WEEKS

In order to obtain my data, I spent between three and four hours every Monday and Wednesday morning from February 9th until May 4th in the gynecology ward (GAMTEL) of RVTH. Upon entering the ward, I would wish *salam alaikum* (Peace be

unto you) to the doctors and nurses milling about, get out my little leather-bound journal, and join the team on its rounds. We would visit each woman, obtain and document her vital signs, and ask if she was experiencing any new complications. Subsequently, diagnoses were reached and prescriptions were written, which were then administered by the nurses on duty. Following rounds, I would go to each patient's bed, greet her in Wolof, obtain her folder, and make note of her age, past medical history, referral information, and symptoms. If a symptom or diagnosis was mentioned that I did not understand, I would inquire with the doctor or nurse about it and add it to my "daily list of unknowns" to research online later that day.

Because RVTH is a teaching hospital, I gained an unprecedented amount of knowledge just by surrounding myself with students and teachers. My questions were always answered thoroughly and without hesitation. Additionally, the open-door and laid-back Gambian culture allowed me to interact on a more personal level with the patients; therefore I not only became knowledgeable about their medical histories, but also about their own personal stories. A simple *naka nga def* (How do you do?) would brighten a patient's day more than I could have ever imagined and initiate an immediate jovial relationship between her and myself. I rarely encountered a patient who was unwilling to help me out with my research—to tell me how she felt, what was troubling her, etcetera. Though the language barrier was an issue at times, between my broken Wolof and their broken English, we all worked together to make my research successful.

IT FEELS GOOD TO BE A PANKA



Figure 3. Women's garden at Tumani Tenda, Kombo East, The Gambia. Photo cred: Sarah Brown.

It did not take long for me to discover the exceptional strength of Gambian women. Each woman I encountered both in RVTH and throughout my Gambian experience was

far from ordinary. The

local term to describe a

tough woman in The Gambia is *panka*. A *panka* is a woman who refuses to be pushed around, a woman who, as they would say in America, “doesn’t take any crap.” I, personally, come from a long line of *pankas* and consequently I am no exception to the rule. I quickly came to develop a great respect for Gambian women as I encountered them each and every day. Each morning before the sun had even risen, I awoke to the sound of women in the neighborhood sweeping outside of their compounds. On the way to school, I saw crowds of women bustling around the market, buying produce and meat in preparation for the day’s meals. Throughout the day, I smelled their cooking, heard them pounding coos (millet) or peanuts or onions, saw them carrying babies on their backs while holding other children’s hands, simultaneously balancing overstuffed baskets on their heads. I saw their expansive gardens full of women with incredibly well-defined muscles carrying heavy buckets brimming with water in each hand, or bent over pulling

weeds, or lugging huge baskets laden with vegetables. The women I encountered in the GAMTEL ward were no less incredible.

From day one at RVTH, I witnessed woman after woman bearing incredible burdens, suffering from astonishing ailments, and remaining without complaint all the while. As I wrote in my blog following my first day:

I walked through the gynecology ward of the Royal Victoria Teaching Hospital, visiting one bed after another, listening carefully as a young doctor described to me the symptoms of each patient. Each woman looked up at me with a blank stare, scared and, for the most part, alone. The long, narrow room was full of these wide-eyed women, each suffering silently from her own personal tragedy. A small elderly woman rose out of her bed, a little shaky on her feet. Her oversized red gown drooped over her bony shoulders, exposing a large white bandage over her right breast. “She had a malignant tumor. We removed it yesterday. Today she says she is feeling fine,” the doctor explained, nonchalantly. I watched in awe as the woman walked slow laps around her cot. She watched me in return.

As my time in The Gambia progressed, the women that I met seemed more and more incredible. It was not uncommon to see a woman alone in the ward, mere hours out of surgery, breastfeeding her child. It was not uncommon to see a woman joking with the woman next to her just minutes after a painful uterine evacuation. It was not uncommon to see a woman sitting up in bed laughing with her sisters just hours after a hysterectomy. One of my most memorable patients gained such a title by demonstrating the most inspiring *panka* display I have ever witnessed:

Mariama was 55 years old, incredibly thin, and quite visibly very ill. From the moment I met her, I took a great liking to her. As was my typical routine, I approached her bed as I would any patient's, said *salaam alaikum*, and picked up her folder. She watched me with classic *panka* eyes, crinkled at the corners a bit with a hint of orneriness. “*Naga def?*” I asked. “*Jaama rek,*” she responded—peace only. Chronically

ill, but peace only, I thought. We exchanged a few more greetings as I looked over her charts, and then I moved on to the next patient. As I worked, I felt her watching me. She remained in the ward for three weeks. Each time I entered the ward, I would greet the doctors and nurses as usual, then head over to greet Mariama and she would sit up in her bed to greet me in return. I came to know both Mariama and her syndrome very well. Mariama was suffering from a rare condition known as Meigs Syndrome— a very uncommon disease which develops in response to an ovarian cyst. The syndrome is composed of a triad of a benign ovarian tumor, ascites (severe abdominal swelling), and pleural effusion (a buildup of fluid between the layers of tissue that line the lungs and chest cavity). Our jovial conversations came to be commonplace during Mariama's three week stay in the ward, and even though we hardly spoke one another's language, I could not help but feel so incredibly inspired by this remarkably peaceful woman.

During the second week of her stay in the ward I truly saw Mariama's inner *panka* come out. Just following her hysterectomy, she had bled a bit on the floor surrounding the toilet while using the ward's bathroom. Several minutes later, the cleaning lady emerged from the bathroom, livid and yelling at the top of her lungs. I was sitting at the front desk, going over charts and talking to a nursing student when the incident unfolded. I looked up at the nursing student, wide-eyed, and asked her to translate the drama. The cleaning lady shouted to the patients, inquiring about who was the disgusting woman who had made such a mess. Mariama confessed, and the cleaning lady continued screaming, telling Mariama that she would die right there in her bed, among other insults. Mariama pulled her frail little body up straight in her bed and, with as much strength as she could muster, yelled right back. The shouting match continued

for several minutes until finally the cleaning lady gave up and stormed from the ward. Mariama glanced over at me, smirked, and lay back down in her bed.

After this episode, I took an especially great liking to Mariama. I studied her charts each day and researched her syndrome thoroughly. I looked forward to seeing her every day that I was in the ward. Following her hysterectomy, I held her hand each time the doctor changed her bandages, repeating *mas, mas* (sorry, sorry) as she winced in pain and squeezed my hand. The day she was discharged was bittersweet. I wished her a peaceful journey, as it was the only meaningful phrase I could think of in Wolof, and never saw her again. She will probably never know the impact she had on me, but I will certainly never forget her.

Mariama's case was just one of the many rare diseases I encountered during my brief stay in The Gambia. As mentioned earlier, whenever I heard a diagnosis of which I had never heard before, I would research it as soon as I returned home from the hospital. I found that an incredible number of these diagnoses were much more uncommon elsewhere in the world. For example, Meigs Syndrome affects only about 1% of all cases of benign ovarian tumors (Wilacy, 2010), and other patients I encountered in GAMTEL suffered from diseases even more rare than this. Within my first two weeks at RVTH, I saw a case of one of the most rare types of cancer which affects only 1 in every 50,000 live births—choriocarcinoma (Magowan, 2009: 212). This extremely rare cancer is a highly malignant tumor which arises from the outermost layer of the embryo after it implants in the uterus. It can quickly metastasize to various organs of the body, so early detection is incredibly important yet often overlooked due to the rarity of the cancer.

Luckily for this patient, the doctors at RVTH were quick to diagnose the issue, carried out a timely hysterectomy, and saved the woman's life.

RESULTS: TOP 5 WOMEN'S REPRODUCTIVE HEALTH ISSUES

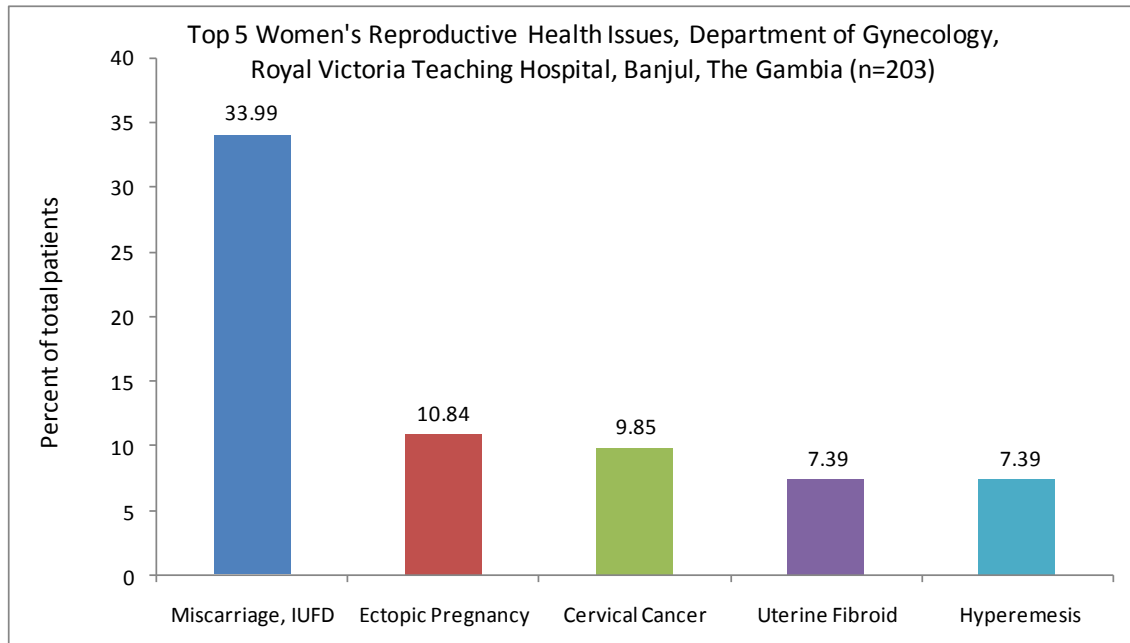


Figure 4. Top five most common women's reproductive health issues seen in the gynecology ward of the Royal Victoria Teaching Hospital, Banjul, The Gambia. 25 days from February 9 – May 4, 2011, n=203.

Although I came across several single instances of rare diagnoses throughout my twelve week internship, most of the cases I encountered became commonplace to me as time went by. By far the most common women's reproductive health problem encountered in the GAMTEL ward at RVTH is miscarriage. Approximately one-third of all cases I encountered during my research were some sort of abortion—complete or incomplete, threatened, missed, inevitable, septic, or induced. The next most prevalent ailments encountered were, according to frequency, ectopic pregnancy (10.84%), cervical cancer (9.85%), uterine fibroids (7.39%), and hyperemesis gravidarum (7.39%) (Figure 1). It is, however, important to note that RVTH is a referral hospital which receives some

of the most serious cases from clinics throughout The Gambia and, as such, these figures cannot be extrapolated to all medical facilities in the country.

HYPEREMESIS GRAVIDARUM

Hyperemesis gravidarum is an extreme form of morning sickness which affects approximately one in fifty pregnant women worldwide (Wilcox, 2010), usually between 8 and 12 weeks of gestation. Generally, women present with chronic vomiting and nausea, which may lead to dehydration, weight loss, and nutritional deficiencies if treatment is not sought. This condition tends to run in families, and to more commonly affect younger mothers, women of African descent, women who have a history of migraine headaches or diabetes, or who have had a previous pregnancy with hyperemesis. Extreme cases are more likely to be associated with a female gestation, multiple gestation, genetic disorders of the fetus (such as Trisomy 21), or a nonviable molar pregnancy.

The cause of hyperemesis gravidarum is not certain, but high levels of human chorionic gonadotropin (hCG) are found to be commonly associated with severe symptoms. Hypotheses suggest that a maternal genetic component may be involved, as studies have revealed that hyperemesis gravidarum tends to run in families. Other studies have suggested that symptoms may be due to an over-reaction of the maternal immune system in an attempt to protect the developing fetus. This hypothesis suggests that certain smells or foods may induce hyperemesis symptoms as the mother's body attempts to protect the fetus from what it perceives as potential toxins. Other research has suggested that the risk for development of hyperemesis increases in women of African

origin, especially those originating from countries outside of Northern Africa. This has been found to be genetically rather than socioeconomically dependent, as one large Norwegian study has pointed out (Vicanes, 2008). Depending upon the severity of the symptoms, hyperemesis gravidarum may become a serious condition for both the mother and the child. If weight loss and nutritional deficiencies are not circumvented by intravenous fluids, oral supplements, and/or anti-nausea medications, hyperemesis gravidarum may lead to many devastating complications. Such complications include premature delivery, deformities of the baby, maternal complications from prolonged dehydration and starvation, maternal liver failure, or maternal kidney failure. Rarely, maternal or fetal death occurs.

Hyperemesis gravidarum is the second leading cause of hospitalization during pregnancy, surpassed only by pre-term labor (Magowan, 2009: 245). Around the world, anywhere between 0.5% and 2% of pregnant women are hospitalized for symptoms (Magowan, 2009: 245). As is the case with the majority of medical issues, hyperemesis becomes much more dangerous in rural or developing areas around the globe, especially where intravenous fluid is unavailable. Before the introduction of the IV, hyperemesis was the foremost cause of maternal mortalities in the world. More recently, mortalities associated with the condition are rare due to the mass production and availability of treatments such as anti-nausea drugs which are safe for pregnancy and intravenous fluid replacement to treat associated dehydration. These treatments are available at clinics throughout even developing countries, and are readily available in The Gambia. Additionally, government and non-government organizations (NGO) have fought to increase access to medical facilities in countries throughout the world; this has also

contributed to the decline in maternal and fetal deaths associated with hyperemesis gravidarum.

Approximately 7% of cases presented in the GAMTEL ward throughout my internship were women suffering from symptoms associated with this severe form of morning sickness. To my knowledge, not one of these patients suffered any major complications, nor were there any complications projected for her developing baby. The availability of intravenous fluids and antiemetics along with the ease of their administration has virtually wiped out severe complications associated with hyperemesis gravidarum in most countries around the world. I found RVTH to be very well-equipped for treating patients suffering from associated symptoms, and shelves were always stocked with the supplies necessary for appropriate treatment. Though initially these patients' situations appeared quite terrifying to me as women dragged themselves into the ward, bent over in pain, eyes bloodshot from days of vomiting; over time I began to see hyperemesis patients as a sort of relief from the many more extreme conditions presented in the ward. Treatment of these women at RVTH was carried out quickly and effectively, and GAMTEL personnel did an excellent job of diagnosing and treating women of this disorder in every instance I witnessed.

UTERINE FIBROIDS

Another 10% of women I saw in the GAMTEL ward were diagnosed and/or undergoing treatment for uterine fibroids. Uterine fibroids are non-cancerous tumors of the muscle layer of the uterus, called the myometrium. Worldwide, estimates suggest that on average 3 out of every 4 women will have one or more uterine fibroids at some

point in their lives (Mayo Clinic Foundation, 2009). Though the exact cause of fibroids remains unknown, studies have shown that tumor growth is dependent on estrogen; therefore a tumor will continue growth as long as menstruation continues regularly and will shrink in size once menopause has been reached and estrogen levels decline. The size of a uterine fibroid may range in size from microscopic and asymptomatic to larger than the size of a full-term pregnancy and the cause of numerous health issues. Fibroids are most commonly diagnosed in multiples—it is rare to encounter a sizable fibroid without discovering many more marring the myometrium. These benign tumors rarely become cancerous, with progression to malignancy only occurring in approximately 1 in 1000 patients (Magowan, 2009: 135). Women who are obese, who have a family history of fibroids, or who are of African descent are more likely to develop the benign growths.

Most commonly, uterine fibroids are completely asymptomatic. However, as the size and number of the tumors increase, symptoms tend to become more severe. Abnormal menstruation is the most common symptom encountered by patients; menses may be abnormally heavy, prolonged, or generally irregular. Other symptoms may include infertility, miscarriage, increased urination, lower abdominal pain, bloating, constipation, or pain during sexual intercourse.

Generally, a simple outpatient procedure called a myomectomy can be carried out in order to remove the fibroid(s) from the uterus while leaving the uterus intact and retaining fertility. This procedure may be carried out abdominally or laparoscopically. Symptoms may also be reduced by a number of hormone therapies or by embolism of the tumor to cut off blood supply and thereby halt its growth. The type of treatment chosen is highly determinant upon the size and number of fibroids. If the size of the fibroid is

small and symptoms are manageable, simply monitoring the size of the growths is preferred to risking surgery, as often times small fibroids simply clear up on their own. As symptoms become more severe and the size and number of the tumors increase, hysterectomy becomes increasingly preferred. Increased age of the woman is also factored into treatment preference. Because half of all women require a subsequent myomectomy within five years (Willis, 2001), if a woman desires no more children or is unable to bear more children, a hysterectomy is generally recommended. If left untreated, uterine fibroids may grow uncontrollably, resulting in a variety of issues including urinary tract infection, organ compression, and infertility. Complications from prolonged and/or heavy bleeding are the most common, frequently leading to anemia or, in severe cases, life-threatening hemorrhage.

Uterine fibroids are one of the most common issues encountered by gynecologists all over the world. I have known many women personally who have dealt with symptoms associated with fibroids, so I was not surprised to find that it is one of the most common issues encountered in The Gambia. Additionally, studies have shown that women of African descent are more likely to develop uterine fibroids than any other ethnic group in the United States. It is estimated that fibroids affect up to 80% of all African-American women at some point in their lives (Cedars-Sinai Medical Center Online, 2011). Their symptoms also tend to be more severe, and tumor growth is much more rapid than in women of other races. In The Gambia and other African nations, fibroids tend to present as much more serious cases, as women tend to seek treatment for the growths less often and/or later than do women in the United States and Europe. This may be due either to a lack of adequate or available facilities, lack of money, and/or lack

of awareness. Currently, research is being carried out to determine whether a genetic component may also be involved, with a focus on African-American women in particular (African-American Fibroid Project, 2009).

Currently, several public health awareness projects are underway in the United States in order to combat the high rate of advanced, enlarged, and symptomatic cases of uterine fibroids in the African American population. As is the case with most medical issues, awareness is key in reducing the rates of morbidity and mortality. The African American Fibroid Project, an American effort based in Chicago, has led the way in fibroid awareness among African American women. Luckily, symptoms typically remain manageable and complications are generally minimal, rendering untreated fibroids a relatively mild issue, especially when compared to the other diseases which are equally prevalent throughout the developing world.

ECTOPIC PREGNANCY

Approximately one in every ten women I encountered during my internship suffered from complications of ectopic pregnancy. Global estimates suggest that ectopic pregnancy occurs about once in every 200 pregnancies (Magowan, 2009: 144). Though my data cannot be extrapolated to include the incidence rate among all pregnancies in The Gambia, World Health Organization studies carried out in sub-Saharan Africa have shown that the rate of ectopic pregnancy can range anywhere from 0.5% to 7% of all pregnancies, making ectopic pregnancies nearly 14 times as common in sub-Saharan Africa as elsewhere in the world (Thonneau, 2002). This research concluded that ectopic pregnancy should be considered a major obstetric problem for maternal morbidity.

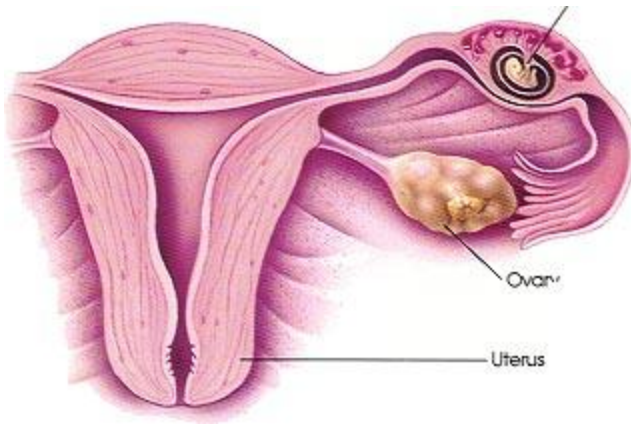


Figure 5. Ectopic pregnancy of the fallopian tube.
<http://www.usdoctor.com/image1.jpg>

Ectopic pregnancy is the implantation of the embryo outside of the uterus. Most commonly, the embryo will implant in one of the fallopian tubes, but ectopic pregnancies can also occur in the abdominal cavity, in the cervix, or within the ovary. As the embryo grows

in this abnormal location, it begins to derive blood from the surrounding tissues, which can lead to organ rupture and potential maternal hemorrhage. If medical treatment is not sought immediately, the embryo will grow to a size which cannot be supported by the abnormal area of implantation, and rupture of the fallopian tube will occur, leading to hemorrhage and potential maternal mortality. It is important to note that a fetus cannot survive outside of the uterus, and thus an ectopic pregnancy can never result in a healthy baby. Ectopic pregnancy is one of the major causes of maternal mortality in the world, accounting for 9% of all pregnancy-related deaths (Sepilian, 2009).

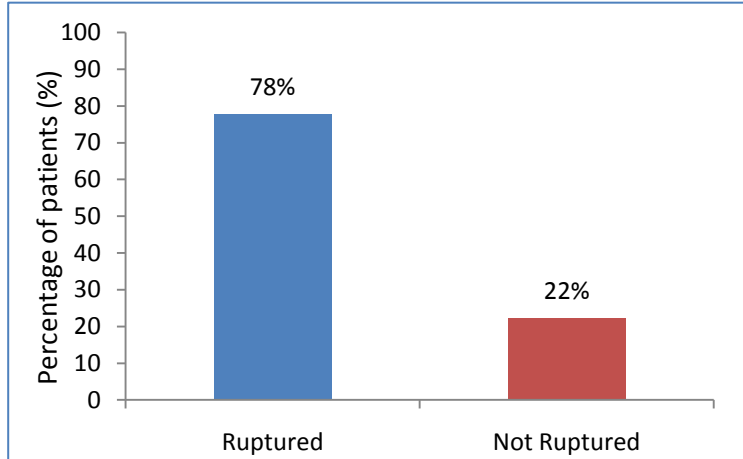
The cause of ectopic pregnancy is not definite but may be due to several factors. Blockage of normal egg migration through the fallopian tubes is thought to be the most common cause. Blockage is most often due to scarring of the fallopian tubes as a result of previous surgeries, prior ectopic pregnancies, or a history of pelvic inflammatory disease (PID). PID is most frequently caused by a sexually-transmitted infection (STI), such as syphilis or gonorrhea. It is estimated that 50% of women who suffer from ectopic pregnancy have had a previous case of PID, and 30% of patients have had a

previous ectopic pregnancy (National Center for Biotechnology Information, 2011). Increased maternal age is another risk factor for ectopic pregnancy, due to atrophy of the muscles surrounding the fallopian tubes, which may result in slow or halted egg migration to the uterus.

It is very important to recognize and treat ectopic pregnancy as soon as possible in order to prevent rupture and associated complications. Symptoms of unruptured ectopic pregnancy include lower abdominal pain, vaginal bleeding, fatigue, shoulder pain, pelvic tenderness, enlarged uterus, and lower than usual human chorionic gonadotropin (hCG) levels. HCG is a hormone characteristic of pregnancy, and as such this hormone is one commonly screened for by home pregnancy tests. In a normal pregnancy, the level of hCG will continuously rise. In the case of ectopic pregnancy, hCG levels are initially normal but will not increase at the typical rate, thus ectopic pregnancy is typically diagnosed by monitoring changes in hCG over time.

Depending on the size of the gestation, treatment for ectopic pregnancy can range from simple drug administration (methotrexate) to major surgery. If the growth is larger than 3.5 cm in diameter or if rupture has occurred, a surgery called a laparotomy is required in order to save the life of the mother. A laparotomy is a diagnostic surgery which allows direct examination of the reproductive organs in order to determine whether or not the gestation has ruptured. Fallopian tube rupture often leads to subsequent maternal hemorrhage, shock, abnormal blood clotting, and/or death. If upon laparoscopic investigation the gestation is found to be ruptured, removal of the entire fallopian tube (salpingectomy) and/or the ovary (oophorectomy) must be carried out in order to save the life of the mother.

Of all of the cases of ectopic pregnancy witnessed throughout my internship at RVTH, only one was mild enough to receive methotrexate only.



Approximately 95% of all patients with ectopic

Figure 6. Rupture status of diagnosed ectopic pregnancies, Department of Gynecology, Royal Victoria Teaching Hospital, Banjul, The Gambia. February 9-May 4, 2011, (n=18).

pregnancy underwent a diagnostic laparotomy; 78% of these revealed a ruptured fallopian tube or ovary (Figure 2). Fortunately, all cases were caught early and I witnessed no resulting maternal deaths. Maternal hemorrhage was common in all ruptured cases, however, and the large majority of ectopic pregnancy patients I saw required one or more blood transfusions to combat excessive blood loss.

My data are mirrored by similar research studies carried out in sub-Saharan Africa. One study carried out at two large university hospitals in Guinea's capital city of Conakry by the World Health Organization documented all diagnosed incidences of ectopic pregnancy from 1995 to 1999. Their results were quite similar to mine in that tubal rupture occurred in a large majority of cases (93%), and only 6 of the 220 cases could be treated "conservatively" with drug administration only. In this study, 10% of all cases were found to be associated with PID, though this information was unavailable for many patients and thus this statistic may be a higher percentage in actuality. A similar study carried out in Zimbabwe reported PID association to be around 50% of all ectopic pregnancy cases (DeMuylder, 1991). The Guinean study concluded that ectopic

pregnancy should be considered a serious threat to maternal health in Africa and specific health initiatives should be developed in order to combat associated maternal mortalities and morbidities (Thonneau, 2002).

CERVICAL CANCER

One in ten women admitted into the GAMTEL ward throughout my internship was suffering from an advanced, terminal case of cervical cancer. Cervical cancer is the number two cancer affecting women worldwide, and the foremost cause of cancer mortality among women in developing countries (WHO, 2002). Caused primarily by the sexually-transmitted human papillomavirus (HPV), this deadly disease is one of the most preventable cancers known to man, thanks to public health promotions of preventative annual screenings for early detection. In countries where screening programs have been

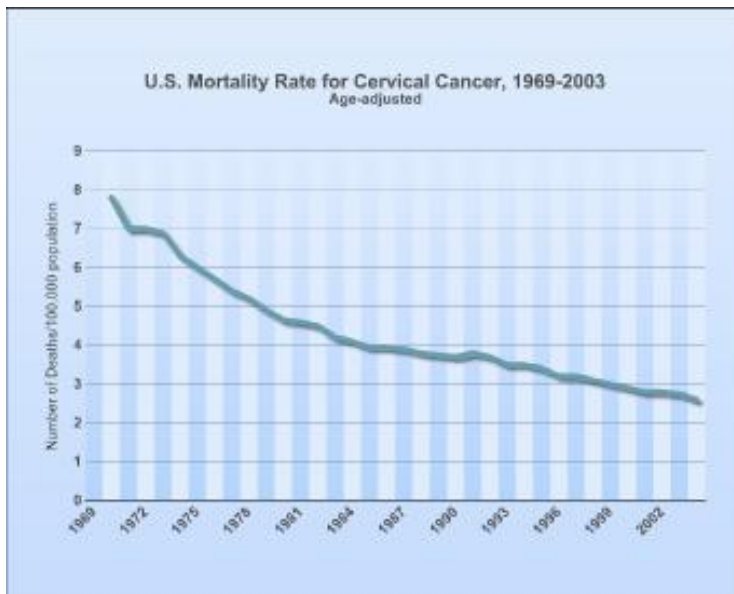


Figure 7. Decline in the cervical cancer mortality rate from 1969 to 2003.
<http://www.labresultsforlife.org/prevention/cervical.cfm?printPage=1&>

put into place, the rate of cervical cancer mortalities has decreased by up to 80% (Dyer, 2008). These screening programs most frequently promote regular screenings via the Pap smear test—a quick, routine procedure in which a swab of the cervix is taken in order to detect the presence of any

abnormal pre-cancerous cells. If any pre-cancerous abnormalities are found, a follow-up out-patient procedure is performed with minimal risk or pain.

The HPV infection is the most common STI in the world, infecting approximately 75% of all sexually-active adults at some point in their lives (Odendal, 2011). Though sexually transmitted, HPV transmission, unlike most STI, cannot be prevented with condom use, as it is transmitted by skin-to-skin contact rather than by penetration. As a result, HPV is very easily transmitted and common among the large majority of sexually-active adults around the world. In 90% of cases, the HPV infection remains completely asymptomatic and the immune system rids the body of the infection without the infected individual ever being aware of the virus' presence (CDC, 2009). If symptoms do occur, genital warts are the only visible manifestation of HPV. There are particular strains of the virus that are considered "high risk" and are more likely to progress to pre-cancerous neoplasms than others. Generally, these neoplasms clear up in their beginning stages and require no treatment. However, if progression continues to stages 2 or 3, the probability of progression to cervical cancer greatly increases.

Because pap smears require laboratories, trained technicians, and adequate facilities these incredibly effective screenings are frequently inaccessible to the majority of women in developing countries. As a result, cervical cancer remains all too common throughout Africa, where the risk of advancement of the disease is five times greater than in Europe and North America (Magowan, 2009: 203). Early detection and subsequent treatment are the most effective means of saving lives. Campaigns for early detection have proven to be extremely beneficial in countries around the world, such as the United States, the United Kingdom, and China, where annual pap smears have become

commonplace and therefore cervical cancer mortalities have become virtually unheard of. Though there have been many potential low-cost alternatives which could greatly increase access to preventative screening in the developing world, the implementation of such programs has proven to be difficult, especially in rural areas of Africa and Asia, where women's health often takes a backseat to other social and economic issues.

Cervical cancer affects such a large number of African women due to the fact that pre-cancerous lesions are largely asymptomatic and do not manifest into any noticeable changes until the cancer has progressed too far for conservative treatment to be effective. Typically, early symptoms are vague or altogether absent until the cancer has advanced past the treatable pre-cancerous stage. Upon advancement, symptoms may include abnormal vaginal bleeding (especially following sexual intercourse), vaginal discomfort, offensive vaginal discharge, and/or an inability to urinate. Advanced cervical cancer, like advanced stages of most cancers, can only be treated with chemotherapy or radiotherapy—an expensive and devastating last resort for otherwise terminal cases. These types of modern treatments are unavailable in developing countries such as The Gambia. Upon admission at hospitals such as RVTH, these patients' only treatment option is palliative care—treatment of symptoms only in order to ensure the remaining months of these women's lives are as pain-free as possible.

Cervical cancer tends to manifest itself more commonly in developing countries for several possible reasons, both environmental and social. According to the World Health Organization, approximately 80% of all cervical cancer mortalities occur in developing countries (WHO, 2002). For every one woman who dies of cervical cancer in the United States, 83 women die in developing countries (WHO, 2002). The main factors

leading to these alarming statistics are a lack of awareness about the disease as well as a shortage of available diagnostic facilities. Before the promotion of regular Pap smears in countries such as the United States and England, cervical cancer was the most prevalent cancer among women in the world. Early detection has proven to save lives, and its promotion in developing countries is crucial in order to reduce the devastating mortality rate associated with the disease. It is debatable, however, as to how effective early detection promotion in developing countries would be. Economical and cultural barriers may prevent the effectiveness of such projects in countries such as The Gambia. Though the price of a Pap smear is negligible according to American standards (averaging about four American dollars), many women in developing countries are unwilling or simply cannot afford to have the test carried out. According to the women I interviewed in The Gambia, it may seem pointless to a woman to sacrifice 100 dalasi (approximately \$4) for a mere preventative measure, especially when she is experiencing no symptoms. Additionally, the so-called “culture of silence” suppresses the voice of women, as they are expected to remain without complaint, especially when it comes to bearing burdens. It is not culturally accepted for a woman to complain, and therefore she will wait until symptoms become unbearable before seeking medical attention. Unfortunately, in the case of cervical cancer this can be deadly.

Risk factors for cervical cancer include beginning sexual activity early in life, having multiple sex partners, a history of STI or HIV, high parity, a history of smoking, long-term oral contraceptive use, and poor nutrition (Garcia, 2011). Several of these factors are highly prevalent in The Gambia. A 2004 United Nations report estimated that 39% of Gambian girls between the ages of 15 and 19 were already married (OECD,

2007). Additionally, there is no minimum age for marriage set by law in The Gambia, and girls have been known to be “given away” as early as 12 years of age. As a result, these girls begin their reproductive years incredibly early and, as a result, become multiparous very early in life. According to the CIA World Factbook, the average number of children per woman in The Gambia is approximately five, which includes the large number of infertile women who never bear any children at all (CIA, 2011). It is not uncommon for a woman to have many more children than this at an incredibly young age, and, as mentioned earlier, this harbors risk for cervical cancer. Polygamy is also a common practice in The Gambia which fosters the spread of sexually-transmitted infections including HPV and others which facilitate the progression of HPV to cervical lesions and eventually cervical cancer. Poor nutrition is also much more common in developing countries. In my experience, an unprecedented number of women at RVTH were found to be suffering from anemia, and often times required blood transfusions in order to return their iron levels to normal. Anemia is just one of many indicators of poor nutrition. Insufficient nutrition may lead to immune suppression, allowing HPV to more effectively manifest itself into deadly cancerous lesions.

The prevalence of HIV/AIDS and other sexually-transmitted infections also fosters the high rate of cervical cancer in developing countries. Cervical cancer is one of several AIDS-defining illnesses (Azadeh, 2011). Not only are HIV-infected women more likely to be co-infected with HPV, but their depressed immune systems allow the HPV virus to manifest itself more easily and to more quickly advance to pre-cancerous lesions and subsequently cervical cancer itself. Women with HIV are eight times more likely to develop invasive cervical cancer than their HIV-negative counterparts, and the

cancer tends to progress at a much faster rate (Odendal, 2011). Though I only encountered two patients co-infected with both cervical cancer and HIV, both cases were considerably advanced. A great deal of research is underway in order to determine why exactly cervical cancer is so common and progresses so quickly in HIV patients. The most widely accepted hypothesis pinpoints immunodeficiency as the major culprit in cervical cancer's quick manifestation, only strengthened by the fact that both HIV and HPV are sexually transmitted (Hawes, 2003).

On one of my first days on the job at RVTH, after all of the patients in the main room had been visited, Sohna instructed me to follow her to a back room. "I need to have a discussion with a patient," she said. "Come with me." We walked through the bathroom area to a back room that I had mistakenly thought was a large supply closet during my first trip to the GAMTEL ward the week before. "Do you know cervical cancer?" she asked. "...Yes," I responded. In the back room stood a middle-aged woman in long, deep red robes with a troubled look on her face. On a bed to her left lay a comatose woman, no more than eighty pounds with graying skin and crusty lips. Her eyes were glazed over and staring blankly at the ceiling. In Wolof, Sohna gently explained to the woman in red what was going on with her mother. Though I could not make out exactly what was said, English words like "prognosis," "cancer," and "malignant" were clearly audible. I watched the face of the woman change from hopeful to worried to simply blank. "Waaw," was her only response. *Okay.*

Cases like this one continued to darken my days at RVTH, and each one inspired me further to try to make a difference. I grew up in a society in which cervical cancer has been severely curtailed by both implementation of routine pap smears as well as the

newly available HPV vaccine. This knowledge prompted me to fight to spread the word about the cancer, its cause, and its prevention. I spent several weeks researching the availability of pap smears in Banjul and the surrounding area, researching ways to promote early detection, and talking with all the Gambian women I met about cervical cancer. In the end, my persistence paid off. Before I knew it, I was working with a team of like-minded activists, promoting awareness on West Coast Radio, a local radio station which broadcasts to the Banjul region. Our feedback was positive, the show was continued the following week, rerun numerous times during the subsequent months, and the air time was bought by one of the largest cell phone service providers in the country in order to promote women's health awareness in The Gambia. Additionally, I compiled an awareness piece that the radio station has posted on its website; it outlines the importance of prevention against cervical cancer, the forms of prevention, and where Gambian women can access inexpensive preventative care.

Although the radio show did reach a good number of Gambians, it is still very important to spread the word about cervical cancer prevention in developing countries. Organizations worldwide are working on implementing efforts in countries throughout Africa in an attempt to battle cervical cancer. These projects are very complicated and vast, and I quickly learned that these efforts are bigger than anything I could tackle single-handedly. Not only does awareness need to be disseminated at the local level, but national planning must be extremely well-organized, and political support must be obtained in order for these projects to be successful. Women's healthcare must be made a national priority, differences in culture must be taken into account, and a great deal of funding must be provided in order for real change to be implemented. Fortunately, many

prominent organizations fighting for this cause do exist and are striving to save lives of women throughout Africa.

MISCARRIAGE AND INTRA-UTERINE FETAL DEMISE (IUFD)

A miscarriage is defined as the spontaneous loss of pregnancy before the fetus weighs 500 grams—typically around 20 weeks of gestation. Comparatively, an IUFD is defined as any loss of pregnancy after 20 weeks of gestation or any time after the fetus exceeds 350 grams (NCBI, 2010). Because the distinction between miscarriage and IUFD varies between countries and the dividing line between the two at RVTH tends to be blurred as doctors from various countries made different distinctions, I decided to combine the two for the sake of my research.

The March of Dimes Foundation estimates that approximately 40% of all pregnancies result in miscarriage, though this includes incidents in which the pregnancy is never known to the mother (Pages, 2008). The miscarriage ratio, which includes only pregnancies which have become known to the mother, lies between 10% and 25% (Magowan, 2009:97). Though the rate of miscarriage in developing countries is difficult to determine, risk factors for miscarriage are generally widespread among women in African countries, and especially those living in more rural and secluded areas. These risk factors include a history of miscarriage or IUFD, history of pre-term labor, increased maternal age, high parity, obesity, smoking, overconsumption of caffeine, exposure to toxic substances, and malnutrition.

Though the exact cause of the majority of miscarriage cases remains unknown, chromosomal abnormalities are thought to be the prominent cause of pregnancy loss

within the first trimester, accounting for approximately 50% of all cases, both missed and realized. The rate of fetal chromosomal abnormality increases drastically as a woman ages or if the mother and father are closely related. Hormone imbalances of the expectant mother are another common cause, especially in women with ovarian cysts or uncontrolled diabetes, and typically result in miscarriage within the first 10 weeks of pregnancy. Immunological causes, such as lupus or blood type mismatching (*erythroblastosis fetalis*), physical abnormalities of the maternal reproductive organs, diseases and infections of the mother, placental abnormalities, and environmental toxins are several other factors which may cause spontaneous abortion of the fetus.

The most common symptom associated with miscarriage or IUFD is vaginal bleeding of varying degrees. The severity of blood loss may range from hardly present at all to life-threateningly heavy, and this is usually dependent upon the age of gestation. Lower abdominal pain, fever, chills, and a change in fetal movement are also commonly presented. Treatment of the mother should be given first priority in order to reduce complications resulting from blood loss, either by administration of IV, oxygen, or blood transfusion. Once the life of the mother has been stabilized, the pregnancy should be confirmed and the status of the baby should be determined. If the baby is found to have no heartbeat and exhibits no movement, labor must be induced in order to save the life of the mother, either medicinally or surgically depending on the length of gestation. If no action is taken to remove the remaining tissue from the mother's womb, it may result in a deadly infection known as septic abortion. Septic abortion affects approximately 10% of all cases of miscarriage and IUFD, and most commonly in cases of purposefully induced

abortions (Mehta, 2008) (Magowan, 2009:101). Septic abortion may result in death of the mother if the infection goes untreated and bacteria enter the bloodstream.

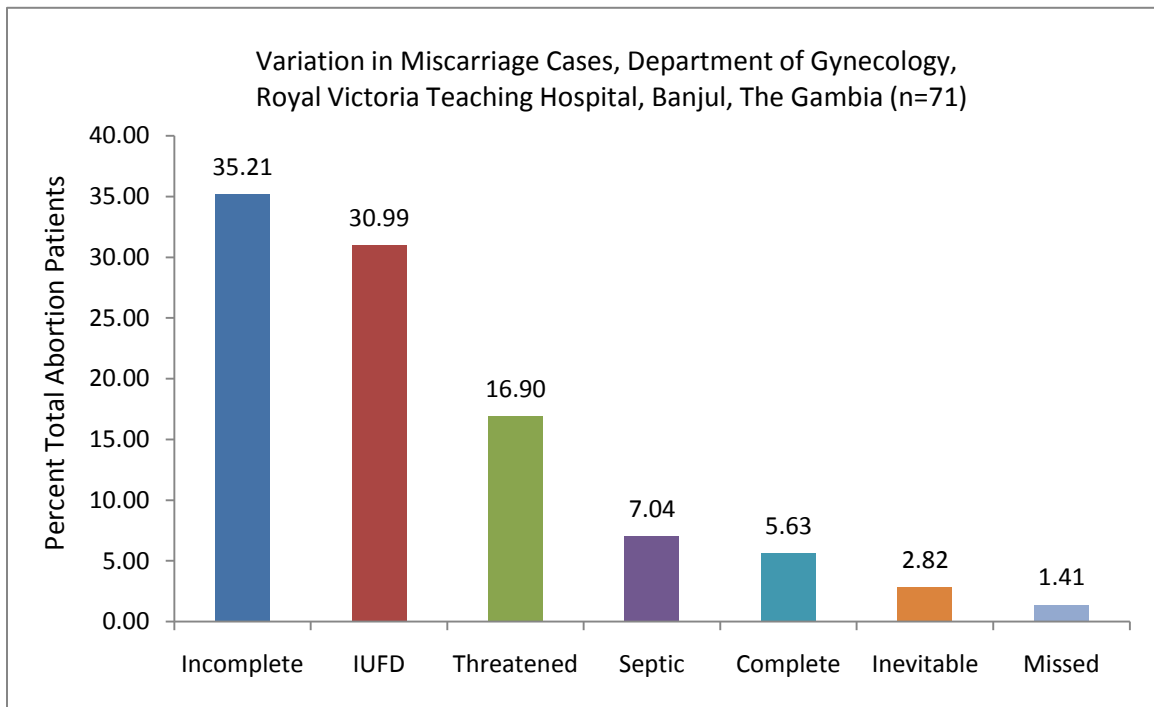


Figure 8. Miscarriage diagnoses in the Gynecology ward of the Royal Victoria Teaching Hospital, Banjul, The Gambia. February 9 – May 4, 2011 (n=71).

A miscarriage may be placed in one of many categories: threatened, missed, inevitable, complete, incomplete, or septic. A threatened abortion is one in which the miscarriage has not yet been definitely diagnosed. Women typically present with mild vaginal bleeding and abdominal pain. This classification is not truly a miscarriage per se, but cases must be monitored carefully in order to prevent loss of pregnancy. A missed abortion is one in which the fetus has died in the womb, but has not been expelled. Often this is due to dysfunctional fetal development within the womb—a situation termed “anembryonic pregnancy.” An inevitable abortion is one in which the cervix has dilated prematurely, allowing the otherwise healthy fetus to be expelled before it is able to

survive outside of the womb. The distinction between complete and incomplete is made upon ultrasound scanning, which reveals whether or not products of conception remain in the womb following a miscarriage. A miscarriage is more likely to be incomplete as a pregnancy advances further. Incomplete miscarriage requires evacuation of the uterus, either medicinally or surgically. Surgical management is carried out via a procedure called dilation and curettage (D&C), in which the cervix is induced to dilate and the womb is subsequently curetted to remove any remaining tissue of the conceptus. If this procedure is not performed or not performed properly, septic abortion may ensue. As previously mentioned, a septic abortion occurs when remaining tissue in the womb becomes infected, and is generally associated with illegal termination of pregnancy. Septic abortion may lead to death by sepsis if not treated immediately.

Throughout my internship at RVTH, the majority of cases I encountered were instances of miscarriage or IUFD. Approximately one out of every three women seen in the GAMTEL ward was admitted as a result of this devastating complication, the majority of which required a uterine evacuation in order to prevent consequential infection. This procedure, commonly called an “evac” around the ward, became all too familiar to me during my time in GAMTEL, and many were carried out in the ward’s examination room without anesthesia. Before I knew better, I thought that all evacs were carried out without anesthesia. It was not until I saw one carried out with anesthesia that I began to question the practice. According to hospital personnel, because RVTH is short-staffed, anesthesiologists are limited, and surgical theaters are few, major surgeries take precedence over minor surgeries. If a woman just happens to need an evac when a major surgery is being performed or when an anesthesiologist is unavailable, her evac

must be carried out sans relief—she must go under the knife completely awake and completely conscious of the excruciating pain. I witnessed several women, screaming in agony in a pool of blood as a crowd of doctors pulled chunks of flesh out of her already battered body by the light of an old desk lamp. I held several women's hands and heard several women screaming in agony as a result of this tremendously painful procedure, all in the name of saving the patient from infection, and I could do nothing but watch. I could do nothing but hold her hand, repeating *mas, mas, mas*.

According to Hassan Azadeh, OB/GYN and senior lecturer at the University of The Gambia Medical School, the most common cause of miscarriage that he encounters is related to complications of sexually transmitted infections (STI), most commonly syphilis and gonorrhea. According to Dr. Manneh of the Gambia Family Planning Association, syphilis and gonorrhea are the most common STI in The Gambia, both of which have a high rate of progression to pelvic inflammatory disease (PID). Worldwide, PID is estimated to be the cause of 15-30% of all cases of secondary infertility (Hales, 2007). PID can cause infertility by several means, but does so most frequently via the accumulation of scar tissue within the female reproductive system. Scarring of the fallopian tubes blocks the fertilized egg from ever reaching its destination, preventing a viable pregnancy from ever implanting in the uterus or resulting in ectopic pregnancy, as mentioned earlier. PID can also cause inflammation of the uterus, which typically leads to miscarriage within the first trimester (Parazini, 1997). In addition, infections such as syphilis can pass to the growing fetus through the placenta, resulting in fetal infection *in utero* and a resulting miscarriage. Because the prevalence of STI in sub-Saharan Africa is approximately 40 times that of Westernized countries (WHO, 2001), this is an

important factor to consider when examining the high rate of miscarriage in developing countries.

Several environmental factors, such as cigarette smoke and air pollution, may also lead to the prevalence of spontaneous miscarriage and IUFD in The Gambia and other developing countries. Several studies have suggested that high levels of air pollution, especially those associated with automobile exhaust, are correlated with high rates of miscarriage. In developing countries such as The Gambia, as automobile imports have boomed in the past decade, the levels of carbon monoxide have concurrently increased. Combined with unregulated emissions due to the poor economic state and lack of appropriate equipment, these factors have led to a drastic increase in air pollution which is clearly visible in terms of automobile exhaust and morning smog in the Greater Banjul Area of The Gambia. The main component of automobile exhaust is carbon monoxide, which is transferable to the fetus through the placenta. This toxin replaces oxygen in the fetal hemoglobin, thereby reducing the blood's availability to carry oxygen. This may lead to hypoxia of the baby and subsequent miscarriage (Raloff, 1998). Further research must be carried out in order to test the significance of this factor.

The most devastating cases of miscarriage I witnessed at RVTH were septic abortions resulting from illegal terminations of pregnancies. Because induced abortions are illegal in The Gambia, when women seek termination of pregnancy they will most often turn to unqualified individuals in unsafe, unsanitary environments. Globally, unsafe abortions claim the lives of at least 68,000 women each year, 43% of which occur in Africa. Illegal abortions have been known to commonly cause numerous medical complications, including uterine perforation, chronic pelvic pain, hemorrhage, and

permanent infertility. Nearly 60% of these women suffer such complications before the age of 25, rendering her barren for life (Grimes, 2006).

Young women such as these are not uncommon at RVTH. One of the most memorable cases I encountered was an 18 year old, single high school senior who will be referred to as Fatou. Fatou was admitted into the GAMTEL ward three months pregnant with an extremely high fever, excessive vaginal bleeding, and severe anemia. Doctors gave her routine treatment for miscarriage—saline, iron supplements, and blood transfusion to replace her dangerous blood loss; drugs to induce the passage of the remaining gestational tissue; and antibiotics to fight the infection causing her high fever. Several days and multiple varieties of antibiotic later, Fatou’s fever remained elevated and her health continued to decline. As routine treatment for septic abortion dictates, the next step was to perform a thorough evacuation to make sure the uterus was vacant of any remaining fetal tissues. In the process, it was discovered that Fatou’s uterus was unnaturally thin and perforated, highly indicative of a careless illegal abortion. The doctors’ only choice was to perform a hysterectomy, leaving the 18 year old girl permanently infertile for the rest of her life.

Unfortunately, cases such as Fatou’s are not uncommon in The Gambia nor in other countries where abortions are illegal and tend to be carried out in unsafe conditions by unqualified practitioners. Even in developed countries such as the United States, devastating situations such as Fatou’s occur each and every day. The World Health Organization is pushing for policy changes throughout Africa in order to combat the deadly complications of sepsis resulting from unprofessional pregnancy terminations. However, initiatives such as these meet several obstacles, including religious and ethical

issues. A great deal of work is currently underway in an effort to take action against this prevalent concern.

DISCUSSION

The cases that I have witnessed in the GAMTEL ward of the Royal Victoria Teaching Hospital have greatly brought into focus the hardships associated with medicine in developing countries. Technological advances in countries such as the United States are taken for granted by those who have access to them. From MRI machines to laptops to pagers, even the smallest bit of technology goes a long way in saving lives. Public health is immeasurably compromised at a medical facility where technology is virtually absent or in short supply. At RVTH, medical records are hand-written, frequently largely illegible, and often prone to disappearing. This has an incredible impact on diagnoses, follow-up, and treatment. Organization and technology are keys to advancing the situation at RVTH and will notably improve conditions for both doctors and patients.

My findings in terms of the main female reproductive health issues encountered in the GAMTEL ward are significant in that they point out the conspicuous prevalence of certain diseases: a sharp contrast to the rarity of such cases in more privileged nations such as the United States. Many of the issues I encountered are largely preventable. By bringing their potential for aversion to the surface, these diseases' preponderance and their associated devastations may be prevented in the future. Especially in the case of cervical cancer, early detection is key to saving lives. It is also important to point out the pervasiveness of the disease and then strive to fix the underlying issues. Patient education should be made a priority, as well. Promotion of pap smears and pre-natal care

are vital in combating the devastation associated with cervical cancer and miscarriage. Public health awareness for women and girls has proven to be incredibly effective in saving lives around the world and could be equally effective in The Gambia, where girls' education has already been made a national priority. Though basic education of females has proven to be effective in lowering the national birth rate and empowering the gender as a whole, public health education is a field which could make a very positive impact on the nation.

Overall, my internship at RVTH was extremely successful on many levels. Personally, I gained a great deal. Connections I made with doctors and nurses both at RVTH and elsewhere throughout the area made my experience incredibly rewarding. Professionally, I gained the experience of a lifetime which will certainly shape my career. In terms of my research, although I am pleased with my results, a larger sample size would have been ideal. Additionally, I probably should have explored additional women's wards throughout the hospital (the outpatient clinic, maternity, post-natal, and ante-natal wards, etcetera), as well as more clinics around the area. Because clinics refer their most complicated cases to the better-equipped RVTH, I saw the most extreme of all the cases in the country. As a result, my data is skewed toward the most severe and cannot be extrapolated to include all of The Gambia. If more time were allotted, I would have probably explored these additional facilities, which would have given me a much broader view of women's reproductive health problems in the nation. My research was also limited by the inaccessibility of Gambian-specific literature and studies associated with women's health. Obtaining such information would require much more time and effort which proved nearly impossible in my brief time in The Gambia.

My short twelve weeks in the GAMTEL ward of the Royal Victoria Teaching Hospital have certainly affected me in several ways. Before coming to The Gambia, I had never seen a dead body, I had never witnessed a surgery, and for the most part I had never been up close and personal with tragedy. Five months later, I have watched cervical cancer patients progress rapidly to their demise, I have scrubbed in on a hysterectomy, I have shown women their growing babies' heartbeats on an ultrasound monitor. I have met women of incredible strength, completely conscious yet merely flinching while excruciating procedures are carried out on their delicate bodies. I have witnessed babies both living and dead brought into the world. I have seen a baby open her eyes to see this world for the first time. I have met under-appreciated doctors, working in challenging conditions with second-hand instruments in dim light for little pay; yet even in these comparatively impossible conditions, the doctors and nurses of RVTH work tirelessly for the benefit of their patients and save numerous lives each and every day. The level of technology that is available at RVTH should be commended, as well. Compared to other African countries of similar socioeconomic status, The Gambia's health programs are relatively vast and well-developed given the country's economic circumstances. The people I have met, situations I have witnessed, and places I have seen have been inspiring to say the very least. Words cannot describe the awe that I feel for the hard-working doctors, nurses, students, and staff at RVTH and The Gambia Family Planning Association, nor can mere words express the sheer appreciation I feel for the honor of this experience.

As a result of my research, I have become a sort of advocate for women's healthcare. Especially in developing countries, public health awareness for women's

health can have a great impact both on public health and on development in general. Empowerment of the female population is empowerment of half the population, and a focus on healthcare is very important in women's development. It has been said that the woman is the pillar of the family, and as such her empowerment becomes the empowerment of the nation as a whole. Female education in terms of nutrition, sanitation, and disease awareness will not only educate women within a society, but will also trickle down to positively affect many more individuals. My research on cervical cancer has especially generated my interest in the disease and the promotion of associated public awareness. I plan to carry out my senior project at Saint Mary's next year on cervical cancer in developing countries and what impact public health initiatives can have on female reproductive health.

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I would like to express my most sincere appreciation to the many medical personnel who were so willing to help me achieve my goals while I was in The Gambia. First and foremost, I would like to thank Dr. Hassan Azadeh for his unabashed willingness to take a "tubab" like me under his wing. I would never have carried out an ultrasound, scrubbed in on a surgery, or met the number of amazing individuals that I was given the chance to meet without him. His incredible desire to help his fellow man (or, in this case, woman) is truly inspiring. He is a real-life super hero, and I am honored to have been given the opportunity to work by his side.

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Neneh were very hospitable and willing to answer any and all of my questions, no matter how trivial. The sisterhood present in the GAMTEL ward is unprecedented and creates a positive atmosphere for otherwise helpless patients. Dr. Patrick Musa and Dr. Bah at the RVTH, as well as Dr. Manneh of Gambia Family Planning Association, and countless others provided invaluable contributions to my research, and I will forever be grateful to them for the experiences into which they generously invited me.

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BIBLIOGRAPHY

- Adongo PB, Phillips JF, Kajihara B, Fayorsey C, Debpuur C, Binka FN.
1997 Cultural factors constraining the introduction of family planning among the Kassena-Nankana of northern Ghana. *Social Science and Medicine* 45 (12):1789-1804.
- Advocates for Youth
1998 Adolescent Sexual & Reproductive Health in Sub-Saharan Africa.
<http://www.advocatesforyouth.org/publications/458?task=view>, accessed 15 March 2011.
- African-American Fibroid Project
2009 African-American Fibroid Project, Chicago, IL, USA. <http://www.uterine-fibroids.org/ChicagoFibroidProject.html>, accessed May 20, 2011.
- Alliance for Cervical Cancer Prevention
2004 Cervical Cancer Prevention Fact Sheet. www.path.org/files/RH_fs_risk_factors.pdf, accessed March 28, 2011.
- Ashford LS.
2001 New population policies: advancing women's health and rights. *Population Bulletin* 36(1): 3-43.
- Azadeh, Hassan, MD
2011 Cervical Cancer, STIs, and HIV. Presented at the University of The Gambia Medical School, Banjul, February 9.
- Bishop, Amie, et al.
1995 Evolving Prevention Strategies for Developing Countries. *Reproductive Health Matters*, 3(6), Women's Health Policies: Organising for Change (Nov., 1995), pp. 60-71. <http://www.jstor.org/stable/3775653>, accessed March 28, 2011.
- Caldwell, John C. and Pat Caldwell
1987 The Cultural Context of High Fertility in sub-Saharan Africa. *Population and Development Review* 13(3):409-437. < <http://www.jstor.org/pss/1973133>>
- Cates, Willard, MD
2003 Preserving fertility: An underappreciated aspect of sexual health. *Network* 23(2), pp. 1-12. <http://www.fhi.org/NR/Shared...>, accessed March 27, 2011.
- Cedars-Sinai Medical Center Online
2011 Uterine Fibroids. <http://www.cedars-sinai.edu/Patients/Health-Conditions/Uterine-Fibroids.aspx>, accessed April 12, 2011.

Centers for Disease Control and Prevention

2009 Genital HPV Infection – Fact Sheet. <http://www.cdc.gov/std/hpv/stdfact-hpv.htm>, accessed May 22, 2011.

DeMuylder, X.

1991 Ectopic Pregnancy in Zimbabwe. *International Journal of Gynecology and Obstetrics* 35:55-60.

Dyer, Karen

2008 From cancer to sexually transmitted infection: Explorations of social stigma among cervical cancer survivors. PhD dissertation, University of South Florida.

Earth Trends Country Profiles

2003 Climate and Atmosphere—Gambia. Technical Report, 2003. Gambia: Earth Trends Country Profiles, World Resources Institute. http://earthtrends.wri.org/pdf_library/country_profiles/cli_cou_270.pdf, accessed March 31, 2011.

Garcia, Agustan A., MD

2011 Cervical Cancer. <http://emedicine.medscape.com/article/253513-overview>, accessed March 28, 2011.

Gaufberg, Slava V., MD

2010 Early Pregnancy Loss. <http://emedicine.medscape.com/article/795085-overview>, accessed March 21, 2011.

Grimes, David A., et al

2006 Unsafe abortion: the preventable pandemic. The Lancet Sexual and Reproductive Health Series. Re-printed by World Health Organization, 2006. http://www.who.int/reproductivehealth/topics/unsafe_abortion/article_unsafe_abortion.pdf, accessed May 22, 2011.

Hales, Dianne

2007 Sexually Transmitted Infections *In An Invitation to Wellness with Infotrac: Making Healthy Choices*. Pp 335-345. Stamford, CT: Thomson Learning Inc.

Hawes, Stephen E., et al.

2003 Increased risk of high-grade cervical squamous intraepithelial lesions and invasive cervical cancer among African Women with Human Immunodeficiency Virus Type 1 and 2 Infections. *The Journal of Infectious Diseases*, 188(4) pp. 555-563. <http://www.jstor.org/stable/30075679>, accessed March 29, 2011.

Hessini, Leila, Eunice Brookman-Amisag, and Barbara B. Crane

2006 Global Policy Change and Women's Access to Safe Abortion: The Impact of the World Health Organization's Guidance in Africa. *African Journal of Reproductive Health*, 10(3), Pp. 14-27. <http://www.jstor.org/stable/30032468>, accessed April 7, 2011.

Highleyman, Liz

2007 Human Papillomavirus. Women and HIV, Summer 2007.

Larsen, Ulla

2000 Primary and secondary infertility in sub-Saharan Africa. International Journal of Epidemiology 2000(29), pp. 285-291.

Magowan, Brian, Philip Owen, and James Drife, eds.

2009 Clinical Obstetrics & Gynaecology. London: Saunders Elsevier.

March of Dimes Foundation

2009 Pregnancy complications: Thrombophilia. http://www.marchofdimes.com/pregnancy/complications_thrombophilias.html, accessed March 21, 2011.

Mayo Clinic Foundation

2009 Uterine Fibroids. <http://www.mayoclinic.com/health/uterine-fibroids/DS00078/DSECTION=complications>, accessed March 26, 2011.

Mbizvo, M T, and M T Bassett

1996 Reproductive health and AIDS prevention in sub-Saharan Africa : the case for increased male participation. Health Policy and Planning 11(1): 84-92.
<http://heapol.oxfordjournals.org/content/11/1/84.long>

Mehta, Jasmine, MD

2008 Surgical Management of Septic Abortion. Presentation: G. K. General Hospital, India. <http://www.slideshare.net/nehjasmine/surgical-management-of-septic-abortion>, accessed May 20, 2011.

National Center for Biotechnology Information

2010 Miscarriage. <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0002458/>, accessed March 21, 2011.

National Center for Biotechnology Information

2011 Ectopic Pregnancy <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001897/>, accessed March 23, 2011.

National Center for Biotechnology Information

2011 Uterine Fibroids. <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001912/>, accessed March 26, 2011.

Oceana Society for Sexual Health and HIV Medicine

2010 Breaking the Silence: Responding to the STI Epidemic in the Pacific: Summary of Recommendations, July 2010. http://www.spc.int/hiv/index2.php?option=com_docman&task=doc_view&gid=402&Itemid=148, accessed March 31, 2011.

Odendal, Lesley

2011 Cervical cancer in women with HIV. *HIV & AIDS Treatment in Practice*, 174 pp. 2-12.

Organization for Economic Cooperation and Development

2007 Social Institutions and Gender Index: The Gambia. <http://genderindex.org/country/gambia>, accessed April 7, 2011.

Pages, S.

2008 Miscarriage. March of Dimes Foundation. http://www.marchofdimes.com/baby/loss_miscarriage.html, accessed May 22, 2011.

Parazzini, Fabio, et al.

1997 Determinants of Risk of Spontaneous Abortions in the First Trimester of Pregnancy. *Epidemiology*, 8(6) pp. 681-683. <http://www.jstor.org.proxy-sm.researchport.umd.edu/stable/pdfplus/3702663.pdf?acceptTC=true>, accessed April 6, 2011.

Population Reference Bureau

2003 Country Profiles for Population and Reproductive Health: Policy Developments and Indicators. https://www.prb.org/pdf/UNFPA-Indicatr_Africa.pdf

Raloff, Janet

1998 Fetal deaths climb with air pollution. *Science News*, 153(20) p 309. <http://www.jstor.org/stable/4010419>, accessed March 29, 2011.

Sepilian, Vicken P.

2009 Ectopic Pregnancy <http://emedicine.medscape.com/article/258768-overview>, accessed March 23, 2011.

Thonneau, Patrick, et al.

2002 Ectopic Pregnancy in Conakry, Guinea. *Bulletin of the World Health Organization* 80(5). http://www.scielosp.org/scielo.php?script=sci_arttext&pid=S0042-96862002000500006, accessed April 7, 2011.

Trogstad, LI, C Stoltenberg, P Magnus, R Skjaerven, and LM Irgens

2005 Recurrence risk in hyperemesis gravidarum. *International Journal of Obstetrics and Gynecology*. <http://www.ncbi.nlm.nih.gov/pubmed/16305568>, accessed April 11, 2011.

United States Central Intelligence Agency

2011 CIA World Factbook: The Gambia. <https://www.cia.gov/library/publications/the-world-factbook/geos/ga.html>, accessed April 7, 2011.

University of Michigan Health System

2007 Fifteen Common Myths About Cervical Cancer. www.medicalnewstoday.com/articles/60731.php, accessed March 28, 2011.

Vicanes, Ase, et al.

2008 Variations in prevalence of hyperemesis gravidarum by country of birth: A study of 900,074 pregnancies in Norway, 1967-2005. *Scandinavian Journal of Public Health*. <http://sjp.sagepub.com/content/36/2/135.abstract>, accessed May 19, 2011.

Wilcox, Susan Renee, MD

2010 Pregnancy, Hyperemesis Gravidarum. *Medscape Reference*. <http://emedicine.medscape.com/article/796564-overview>, accessed April 11, 2011.

Willacy, Haley, MD

2010 Meigs' Syndrome. *Patient Plus GP Reference*. <http://www.patient.co.uk/doctor/Meigs%27-Syndrome.htm>, accessed May 19, 2011.

Willis, Felicia

2001 For Your Health: Uterine Fibroids. *Modern Drug Discovery* 4(11):19-20. <http://pubs.acs.org/subscribe/archive/mdd/v04/i11/html/11health.html>, accessed March 26, 2011.

World Health Organization

2001 Global prevalence and incidence of selected curable sexually transmitted infections: overview and estimates. http://www.who.int/hiv/pub/sti/who_hiv_aids_2001.02.pdf, accessed April 6, 2011.

World Health Organization

2002 Cervical Cancer Screening in Developing Countries. Report of a WHO consultation, 89. Geneva: World Health Organization.

World Health Organization

2010 Malaria Fact Sheet. <http://www.who.int/mediacentre/factsheets/fs094/en/>, accessed March 31, 2011.

Xiping, Xu, et al.

1998 Association of Petrochemical Exposure with Spontaneous Abortion. *Occupational and Environmental Medicine* 55(1) Pp. 31-36. <http://www.jstor.org/stable/27730871>, accessed March 30, 2011.