Introduction

Many non-communicable diseases are overlooked in the developing world because of the abundance and danger of HIV/AIDS, malaria, and other communicable diseases, but the non-communicable disease, hypertension, afflicts about 1/3 of the world’s population, most of whom reside in developing countries. This illness in the developing world deserves everyone’s attention. Abdel R. Omran identified a pattern that most regions follow in transitioning from an abundance of communicable diseases to non-communicable diseases called the Epidemiologic Transition. The Epidemiologic Transition separates the progression into three stages:

1. Age of Pesticide and Famine
2. Age of Receding Pandemics
3. Age of Degenerative Man-Made Diseases

Most of the world has transitioned past the first stage, except for Sub-Saharan Africa. However the end of the first stage is marked by a great rise in hypertension which can be seen all over Sub-Saharan Africa and in our close neighbor Haiti. The United Nations has recognized the need to address this rising issue and they have made plans to introduce solutions in their next Millennium Development Goals addition in 2015.

I have researched the prevention and treatment attempts of hypertension in Haiti and analyzed the successes and complications of those attempts over the past few months. Haiti is one of the world’s poorest countries and the burden of hypertension is increasing, but groups have worked on education and treatment programs in Haiti that are becoming incorporated in their next Millennium Development Goals addition in 2015.

I. Hypertension

A. Definitions

Hypertension, also known as high blood pressure, is a disease in which the systolic blood pressure is greater than or equal to 140 and the diastolic blood pressure is greater than or equal to 90. Stage I hypertension is 140-159 mmHg and Stage II is greater than or equal to 160 mmHg. Systolic blood pressure is the pressure of the blood in the arteries while the heart is pumping and the diastolic blood pressure is the pressure of the blood in the arteries between heart beats. The numbers are actually measurements of pressure in millimeters of mercury, so the initial level of hypertension would be correctly scribed 140/90 mmHg. There are two types of hypertension, which are Essential Hypertension and Secondary Hypertension. 95% of all cases are Essential Hypertension in which the cause is unknown; it is usually attributed to genetic or environmental factors such as obesity, high salt intake, sedentary lifestyle, or an especially active renin angiotensin system. Secondary Hypertension cases are ones where the cause is known. This can include chronic kidney disease, renal artery stenosis, autonomous aldosterone excess, pheochromocytoma, and sleep apnea. Hypertension drastically increases a person’s risk for stroke and heart disease because of the stress it puts on the heart and arteries. Medications for hypertension include diuretics, beta blockers, ACE inhibitors, and calcium channel blockers.

B. Epidemiology

2. People of African ancestry are more likely to have hypertension, but there are a few different theories why. One theory was that when the ancestors of Blacks in the Americas were taken over on slave ships, it was beneficial for a high retention of sodium, so people with alleles for retaining sodium survived more often than others, which would create a larger amount of hypertension in the population. This theory is considered mostly false at this point after thorough analysis, but many different genes have been found to affect University of Hampshire (though they only affect it a fraction of an mmHg so it is highly unlikely that this is the largest factor affecting the prevalence of hypertension in people of African ancestry. In Haiti specifically some environmental factors could contribute to a high prevalence of hypertension such as their use of salt and lack of potassium in their diets. Salt has played a large role in their culture because access to electricity is inconsistent and salt is a good preservative. Also they have acquired a taste for salt, so lots of Haitian recipes incorporate salt. Haitians also connect salt with the idea of strength along with other beliefs who aren’t medical students need to be educated on the dangers of hypertension because many aren’t aware of the dangers. Many Haitians will go to a Voodoo specialist over a doctor because of their culture and they also don’t understand that different doctors specialize in different things, so when they are referred to different doctors they don’t understand why. Also many Haitians don’t know they even had hypertension until after they have a stroke and by then it is too late.

C. Diagnosis

1. Hypertension in Haiti: A Model For The Caribbean And Beyond - written by John Kenerson, MD.
3. Haitian Hypertension Program – Colleagues in Care
4. Phone call with Dr. John Kenerson, MD.
5. Q and As on Hypertension – World Health Organization taken from their website http://www.who.int/ncds/qa/en/
6. Treating Hypertension in Haiti in the Aftermath of the Earthquake – Eric Roehm, MD, FACC. Taken from his website HypertensionRxHaiti.com
8. The Stages of Hypertension – written by Chris Biadas, MD. Taken from http://www.everydayhealth.com
10. Heart Disease in Africa – Thomas A. Gazzino, MD, MSc. Taken from circ.ahajournals.org

Analysis and Conclusions of Haitian Hypertensive Situation

1. What is hypertension?
2. Why would people in Haiti be specifically prone to the disease?
3. How many people in Haiti have hypertension?
4. What is the most common gender and age of the people with hypertension in Haiti?
5. Is the burden of hypertension increasing or decreasing in Haiti today?
6. How is hypertension being treated in Haiti… what prevention methods, education attempts, medications etc.
7. Is the treatment (medication) for hypertension expensive in Haiti?
8. Are attempts to educate people on hypertension expensive in Haiti?
9. Are attempts to treat hypertension with medication generally successful, and what are the problems/complications?
10. Are attempts to educate Haitians on hypertension generally successful, and what are the problems/complications?

D. Management of Hypertension in the Community

7. Costs of medications vary greatly depending on the medicine even within the different classes of medicines (Michael Webber). The cost of hypertension medications however is not overly expensive. For example, the thiazide diuretic, hydrochlorothiazide costs only $10 for 1000 pills while the ACE Inhibitor lisinopril costs $50 for 1000 pills. However as you can see most of the medications are relatively inexpensive.

8. No, education attempts are relatively expensive.

9. Attempts to treat Haitians with medicine are generally successful. The main problem is that some medicines require lab testing after treatment and that is difficult to do in Haiti. Doctors adjust the way they administer medicine by only giving the medicines that don’t require lab testing to patients with hypertension that is not severe. With patients with severe hypertension they usually end up giving them the medicines that require lab testing whether or not they are able to lab test because that is the only way to bring down their hypertension.

10. The education attempts are relatively successful, but it is hard to consistently educate a large enough amount of Haitians to meet the needs of the people. Also many Haitian people who aren’t medical students need to be educated on the dangers of hypertension because many aren’t aware of the dangers. Many Haitians will go to a Voodoo specialist over a doctor because of their culture and they also don’t understand that different doctors specialize in different things, so when they are referred to different doctors they don’t understand why. Also many Haitians don’t know they even had hypertension until after they have a stroke and by then it is too late.

E. Practices

1. Hypertension in Haiti: A Model For The Caribbean And Beyond - written by John Kenerson, MD.
3. Haitian Hypertension Program – Colleagues in Care
4. Phone call with Dr. John Kenerson, MD.
5. Q and As on Hypertension – World Health Organization taken from their website http://www.who.int/ncds/qa/en/
6. Treating Hypertension in Haiti in the Aftermath of the Earthquake – Eric Roehm, MD, FACC. Taken from his website HypertensionRxHaiti.com
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References

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8. The Stages of Hypertension – written by Chris Biadas, MD. Taken from http://www.everydayhealth.com
10. Heart Disease in Africa – Thomas A. Gazzino, MD, MSc. Taken from circ.ahajournals.org

12. Prevention and Control of Non-Communicable Diseases – written by the Secretary General for the United Nations General Assembly