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Ethiopia, Infectious Diseases

Ethiopia: The Use of Vaccines to Prevent Multiple Infectious Diseases

Ethiopia is a country located in east Africa. It is considered to be in the horn of Africa. The country of Ethiopia is currently the second-most populous country in Africa. Its geography is diverse with its rugged mountains, flat-topped plateaus, deep gorges, and river valleys. Its total land area is 426,400 square miles. The main source of income for Ethiopians is agriculture. It contributes to 85% of the country's employment. (*Ethiopia: Economy*) Ethiopia has a current population of around 115 million people.

The country of Ethiopia is completely landlocked. It is surrounded by Sudan in the west, South Sudan, Somalia and Djibouti in the east, Eritrea in the north, and Kenya in the south. The diverse geography of the country allows it to be split in many different ways. There are nine national regions in Ethiopia and two main administrative councils. The regions were originally split based on ethnicity and religious beliefs. Within their government system, each region elects an official to become a representative for that region. The capital of Ethiopia is Addis Ababa. It is also the most populated city in Ethiopia with about 3 million people currently living there. The government is currently structured by a federal parliamentary republic. (*Ethiopia: Government*) In recent years the country has seen many issues with its government standings and this has caused a war in parts of the country.

The most recent conflict has been in the Tigray region. This region began a civil war in late 2020 when two regions were merged by prime minister Abiy Ahmed. He did this to form his new government party called the Prosperity Party. This caused an uproar from the original colonies who wanted to be an independent district. Soon the prime minister took full action against the region which caused a civil war between the two groups. (Bader, n.d.) The war is still ongoing with some reports of it coming to a halt, but the end has not yet been declared by either side. The war has left the Tigray region in distress and has caused many problems for other people in Ethiopia.

Besides the war, Ethiopia has seen recent issues with natural disasters. Ethiopia is susceptible to climate change induced disasters such as drought, epidemics, floods, conflict, earthquakes, pests, wildfire, and landslides. (*Climate Change, Natural Disaster and Rural Poverty in Ethiopia*, n.d.) Many times it seems that Ethiopians can not catch a break and either experience a drought or a flood annually. Both of these natural disasters largely affect the production of crops, as well as their living conditions. Most farmers largely rely on exporting their goods to receive their wages, but with back-to-back floods and droughts, it has become continually harder for them to make a living. (*Climate Risk Country Profile: Ethiopia*, n.d.)

An example of the disruption that these natural disasters bring is from April 2018. A large flood in the Somali region caused over 170,000 people to be displaced from their homes. The floods ruined around 12,000 acres of farmland and damaged 76 health facilities. Because of the flooding, schooling was interrupted and over 15,000 houses were destroyed. (*Ethiopia: Floods and Landslides - Apr 2018*, n.d.) This is just one of the examples of how the Ethiopians have been affected by their climate and reports indicate that climate change is to blame for some of it.

Another large issue in Ethiopia is the effect that disease has on the nation. A number of diseases spread due to lack of clean water, and poor living conditions. Some of the most common diseases are malaria, rotaviral diarrhea, and hepatitis. The causes of these diseases are known by many from outside of the country, but inside the country people may not be educated enough to know the impacts that these diseases are having on them and their community.

Religions can vary from region to region in Ethiopia. Christianity came to Ethiopia around the 4th century making it one of the oldest predominantly Christian countries in the world. Ethiopian Orthodox Christianity is what 43.5% of Ethiopians practice as their main religion. Islam consists of around 33.9% and Protestant Christianity is about 18.6% of the country's top religions. (*Religious Beliefs In Ethiopia - WorldAtlas*, n.d.) These practices usually depend on which region they are from and how that region of government is run. They are one of the deepest religion ran countries in the world. They base each region on their religion and use their practices to make laws and that is why combining them is such an issue for the country at this time. (*Ethiopian Culture - Religion — Cultural Atlas*, n.d.)

Over the past decade, Ethiopia has made strides in its education system. Public education has become free and is funded by the government. Primary education is offered for eight years and is compulsory between ages 7 and 12. Four years of secondary education, comprising two two-year cycles, follow. (*Ethiopia - Education | Britannica*, n.d.) It has been found that in rural areas there is a need for more education resources. In more urban areas there is often overcrowding at schools due to a lack of resources and students with a strong willingness to learn. Even though most schools are government-funded they see a lack of funds, teacher shortages, and issues with school infrastructure.

The diets of Ethiopian people can vary based on their location and agricultural pursuits. Many Ethiopians rely on cereal grain for most of their diet. They grow crops like corn and root crops like potatoes and ensete. (*Nutrition Country Profiles: Ethiopia Summary*, n.d.) Even though they do raise livestock, the amount of meat produced is rarely eaten by themselves. They use these animals to sell and not for themselves. There are also some religious beliefs that prevent them from eating certain types of meat like pork. Throughout all religions, there are also times of fasting that the Ethiopians follow.

The issue being focused on is how to decrease the spread or continuation of infectious disease within the country of Ethiopia. There are many diseases that people in rural areas are especially more prone to. Some diseases are more seen during times of drought-like meningitis, measles, and cholera. (*Ethiopia*, n.d.) Others are seen and spread through the unsanitary conditions and from being uneducated on how to prevent these infections.

The Centers for Disease Control and Prevention established a program to assist identification of disease in Ethiopia in order to prevent the spread of diseases that may continue into epidemic status. The Ethiopia Field Epidemiology Training Program, or EFETP, was established in 2009 to assist in disease identification. As of October of 2020, 517 advanced residents and 585 surveillance officers were educated as disease detectives (*Ethiopia*, 2021). These specialists learn to look for symptoms and clues to disease outbreaks in an effort to stall spread and prevent epidemics and further transfer of disease in Ethiopia. These trained health workers “responded to over a hundred recent outbreaks, including: anthrax, malaria, cholera, yellow fever, pertussis, guinea worm, vaccine derived polio virus, and measles.” (*Ethiopia*, 2021).

There is clearly a need for communication in the rural areas of the country to educate Ethiopians about their health and how to care for themselves and others. Many times the diseases spread could be prevented just by the use of vaccines. The reason why these people haven't been vaccinated is either because they are not available, or they do not know about them. It is vital that the rural Ethiopians be educated on their health and that they pass on that knowledge to other community members to help sustain their health.

The addition of medical education in these areas would most likely need to be executed by an outside source. While the government of Ethiopia has some medical facilities in education, they fail to reach rural areas to help with ongoing problems. Their services are often only available to the wealthy and upper-class people of Ethiopia. Rural areas need these resources to enable them to become healthier communities and continue to grow in their lives. Aid from organizations such as the Centers for Disease Control can continue to provide assistance and direction on the education of trained individuals to watch for health concerns throughout Ethiopia.

Another idea for continuing medical education in Ethiopia would be having either medical professionals or students volunteer in small towns and villages to teach about their own health and common medical issues in their area. In some cases if the medical professionals stayed in one area for long enough they could train students in a certified nursing assistant class to have more medical knowledge to help support their community.

Associations like Gavi were made to help spread the use and knowledge of vaccines. This is an organization that puts its efforts forth to allow underprivileged communities to receive vaccinations as needed. (Gavi, n.d.) They provided vaccines for measles which is a very prominent infectious disease in Ethiopia. They already provide lots of support to countries near Ethiopia like Sudan and Kenya. They have many more vaccines that could be distributed based on need in each region.

In summary, the need for vaccination and observation of disease indicators in rural Ethiopia is a dire need for the people to prevent infectious disease outbreaks. After these vaccinations, communities will be more able to combat disease and this will help them to put their focus on other ventures, like farming and education. This will allow them to be more self-sustainable and overall help their local communities prepare for better futures.

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