

GLOBALISATION AND DISEASE SPREAD IN THE WORLD: A REVIEW FROM SOCIO-CULTURAL PERSPECTIVE

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Abstract

This work discussed the issue of globalization and its relationship with disease spread in the world. Globalization has been variously defined. While some see some good in it, others see it as a negative advantage. This second view is mainly by the developing nations of the world. The definition of globalization from whatever perspective has been that of looking at it as an integrative process. A process that tries to make a village out of the whole world. The paper discussed diseases like bubonic, measles, typhus, syphilis, small pox, leprosy, malaria, tuberculosis, the human immuno virus and the acquired immune deficiency syndrome. The history of globalization and travel patterns of people in the world that facilitate the spread of diseases were discussed. It is the conclusion that as people keep moving around the world, and without restrictions, more and more diseases will continue to be spread which will be an evil wind that will blow nobody any good. The recommendation is that attitudes that create diseases should be dealt with and the intensification of the process of examining people who move across borders.

Key Words – Globalization, Disease spread.

Introduction

Globalisation is a word with many meanings. To some, it is one of the good things that have happened to humanity. To others, it is the road to the fatal end of the world. According to Aluko (2006), “the last few decades have witnessed the growing impact of two distinct global trends which have had profound implications for the world economically, socially and politically.” These two distinct trends are the rapid growth of information technology and the increased global integration of trade and capital. The presence of globalisation has created a situation where the whole wide world is being turned into a global village with societies being brought closer and closer to each other made possible by very fast improvements in transportation and communication. In this, people are by the day being rapidly brought nearer to each other. Both rapid physical and non-physical contacts are made possible. The consequence is that the people of the world today exchange either knowingly or unknowingly both the desirables and non-desirables including diseases. This work therefore seeks to examine what globalisation means and how its characteristics contribute to the spread of diseases worldwide.

The Concept of Globalisation

Globalisation has been variously defined by scholars. These definitions have all been affected by the backgrounds of the scholars and what they think of the concept. According to Kottakk (2008: 292), globalisation “encompasses a series of processes, including diffusion and acculturation, working to promote change in the world in which nations and people are increasingly interlinked and mutually dependent.” Of course, these linkages are seen to be promoted by economic and political forces, along with modern systems of transportation and communication. Kottakk further stated that the forces of globalisation include international commerce, travel and tourism, trans-national migration, the media, and various high-tech information flows.

Albrow (1990: 9) defined globalisation as “all those processes, through which the peoples of the world are incorporated into a single society – a global society.” According to Giddens (1997: 64), globalisation means the “intensification of worldwide social relations, which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa.” To Aluko (2006: 318) globalisation is *“the growing interdependence of countries (economically, politically, culturally, socially and so on) worldwide through the increasing volume and variety of cross border transactions in goods and services and of international capital flows, as well as through the more rapid and wide spread diffusion of technology.”*

From the above, the concept globalisation is seen to represent the flow of information, goods, capital and people across political and geographic boundaries without restrictions. This has been made possible by the improvements in many areas of world life most especially in the transport and communication sectors. This free flow of information, goods, capital and people across political and geographic boundaries without restrictions “has helped to spread some of the deadliest infectious diseases known to humans” across the globe. The spread of diseases across wide geographic scales has increased through history. Early diseases that spread from Asia to Europe were bubonic plague, influenza of various types, and similar infectious disease. Africa and every other parts of the world are not left out.

Today, the world is more interdependent than before as a result of the current trends of globalisation. Long-distance communication is easier, faster, and cheaper than ever and extends to remote areas with the help of the mass media. Efficient and inexpensive transportation has left few places inaccessible, and increased global trade in agricultural products has brought more and more people into contact with animal diseases that have subsequently jumped species barriers (Trachtman, 1992).

History of Globalisation

Man has always traveled from place to place for many reasons. People had traveled in search of food, medicine, water, companionship, territories, and so on. People had traveled for reasons of wars, genocide and slavery among others. In the words of Aluko, *“historically, integration of people, culture or nation into a global system has been a reality for hundreds of years, most especially in third world countries. The experience of colonialism, genocide, and slavery among others, shows that the fate of most of Asia, Latin America, Africa and elsewhere has been closely tied to industrial revolution in Europe after 1492.”*

Apart from slave trading and colonialism, the activities of multinational companies that had operated across national borders helped in bringing peoples and cultures hitherto foreign to each other closer together. According to Aluko, (319), *“Europe in the middle age had numerous trading companies, which had established offices and representatives in cities across the continent. Also the merchants of the German Hanseatic League had myriad interests: they helped develop agriculture in Poland, iron production in Sweden, and general industry in Belgium.”*

Globalisation may have been intensified during the age of exploration as a result of technological advances in shipbuilding, but there have been evidences of trading routes long established between many societies of the world. There had been trade

routes between Asia and Europe. These routes had not only helped in the movement of goods but also in the transmission of diseases from society to society. A slave trade route was there between Europe, America and Africa for more than four hundred years.

Increases in travel have also helped in the spread of diseases to native lands that had not previously been exposed. The result is that when a native population is infected with a new disease, where they have not developed antibodies through generations of previous exposure, the new disease tends to run rampant within the population.

Science and scientific studies have recognized five modes of disease transmission of infectious diseases in society. These modes include airborne, waterborne, blood borne, transmission by direct contact, and transmission through vectors (insects and other creatures that carry germs from one species to another, (Altman, 1998), as in mosquito to human beings). As human beings travel overseas and across lands which were previously isolated, research suggests that diseases have been spread by all five modes of transmission.

Travel patterns and Globalisation

The Age of Exploration generally refers to the period between the 15th and 17th centuries. During this time, technological advances in shipbuilding and navigation made it easier for nations to explore outside previous boundaries most especially Africa. Globalization has had many benefits, for example, new products to Europeans were discovered, such as tea, silk and sugar when Europeans developed new trade routes around Africa to India and the Spice Islands, Asia, and eventually running to the Americas.

In addition to trading in goods, many nations began to trade in slavery. Trading in slaves was another way by which diseases were carried to new locations and peoples, for instance, from sub-Saharan Africa to the Caribbean and the Americas. During this time, different societies began to integrate, increasing the concentration of humans and animals in certain places. This led to the emergence of new diseases as some jumped in mutation from animals to humans.

During this time sorcerers' and native doctors' treatment of disease was often focused on magic and religion, and healing the entire body and soul, rather than focusing on a few symptoms like modern medicine. Early medicine often included the use of herbs and meditation. Based on archeological evidence, some prehistoric practitioners in both Europe and South America used trephining, making a hole in the skull to release illness, (Kottak, 2008). Severe diseases were often thought of as supernatural or magical. The result of the introduction of Eurasian diseases to the Americas was that many more native peoples were killed by disease and germs than by the colonists' use of guns or other weapons. Scholars estimate that over a period of four centuries, epidemic diseases wiped out as much as 90 percent of the American indigenous populations, (Altman, 1998). These epidemic diseases were foreign and were able to do much damage because the people it attacked had never had it before and as such could not build any immunity against them.

In Europe during the age of exploration, diseases such as smallpox, measles and tuberculosis (TB) were believed to have been introduced centuries before through

trade with Asia and Africa. People had developed some antibodies to these and other diseases from the Eurasian continent. When the Europeans traveled to new lands, they carried these diseases with them. When such diseases were introduced for the first time to new populations of humans, the effects on the native populations were widespread and deadly. The Columbian Exchange, referring to Christopher Columbus's first contact with the native peoples of the Caribbean, began the trade of animals, and plants, and unwittingly began an exchange of diseases, (Altman, 1998).

It was not until the 1800s that humans began to recognize the existence and role of germs and microbes in relation to disease. Although many thinkers had ideas about germs, it was not until Louis Pasteur spread his theory about germs, and the need for washing hands and maintaining sanitation (particularly in medical practice), that anyone listened. Many people were quite skeptical, but on May 22, 1881 Pasteur persuasively demonstrated the validity of his germ theory of disease with the first successful vaccination, Haralambos and Holborn, 2008). The anthrax vaccine was administered to 25 sheep while another 25 were used as a control. On May 31, 1881 all of the sheep were exposed to anthrax. While every sheep in the control group died, each of the vaccinated sheep survived (MacKenzie, 2009). Pasteur's experiment would become a milestone in disease prevention. His findings, in conjunction with other vaccines that followed, changed the way globalization affected the world.

The way that the globalisation process is taking place will continue to determine the trend of disease spread in the world. The trend is not the same for all the nations of the world. According to Aluko (322), "the industrialised countries are very selective in those aspects of globalisation to allow for international migration of people in search of work remains a very sensitive issue in many industrialised countries." Gaining access by citizens of the third world countries to the developed nations has not always been an easy one. This is not the same with when the citizens of the developed nations seek to enter into the third world countries.

The Consequence of Globalisation on Disease in the modern world

Modern modes of transportation allow more people and products to travel around the world at a faster pace; they also open the airways to the transcontinental movement of infectious disease vectors (Eeva, 2005). One example is the West Nile Virus. It is believed that this disease reached the United States via "mosquitoes that crossed the ocean by riding in airplane wheel wells and arrived in New York City in 1999," (Eeva, 2005). With the use of air travel, people are able to go to foreign lands, contract a disease and not have any symptoms of illness until after they get home, and having exposed others to the disease along the way.

As medicine has progressed, many vaccines and cures have been developed for some of the worst diseases (plague, syphilis, typhus, cholera, malaria) which people suffer. But, because the evolution of disease organisms is very rapid, even with vaccines, there is difficulty providing full immunity to many diseases. Finding vaccines at all for some diseases remains extremely difficult. Without vaccines, the global world remains vulnerable to infectious diseases

Specific diseases and their movement trends across borders over the years

Bubonic plague

Bubonic plague is a variant of the deadly flea-borne disease plague, which is caused

by the **enterobacteria *Yersinia pestis*** that devastated human populations beginning in the 14th century. Bubonic plague is primarily spread by fleas that lived on the black rat, an animal that originated in south Asia and spread to Europe by the 6th century. It became common to cities and villages, traveling by ship with explorers, (Janbon, Parola, Raoult, Roure, and Vogelaers, 1998). The first recorded outbreak of the plague occurred in China in the 1330s, a time when China was engaged in substantial trade with western Asia and Europe. The plague reached Europe in October 1347. It was thought to have been brought into Europe through the port of Messina, Sicily, by a fleet of Genoese trading ships from **Kaffa**, a seaport on the Crimean peninsula, (Janbon, Parola, Raoult, Roure, and Vogelaers, 1998). When the ship left port in Kaffa, many of the inhabitants of the town were dying, and the crew was in a hurry to leave. By the time the fleet reached Messina, all the crew were either dead or dying; the rats that took passage with the ship slipped unnoticed to shore and carried the disease with them and their fleas, (Janbon, Parola, Raoult, Roure, and Vogelaers, 1998).

Within Europe, the plague struck port cities first, then followed people along both sea and land trade routes. It raged through Italy into France and the British Isles. It was carried over the Alps into Switzerland, and eastward into Hungary and Russia, (Janbon, Parola, Raoult, Roure, and Vogelaers, 1998).

Measles

Measles is a highly contagious airborne virus spread by contact with infected oral and nasal fluids. In 1529, a measles outbreak in Cuba killed two-thirds of the natives who had previously survived smallpox. Two years later measles was responsible for the deaths of half the indigenous population of Honduras, and ravaged Mexico, Central America, and the Inca civilization, (Janbon, F., Parola, P., Raoult, D., Roure, C. and Vogelaers, D. 1998).

Historically, measles was very prevalent throughout the world, as it is highly contagious. According to the National Immunization Program, 90% of people were infected with measles by age 15, acquiring immunity to further outbreaks. Until a vaccine was developed in 1963, measles was considered to be deadlier than smallpox.

Typhus

Typhus is caused by *rickettsia*, which is transmitted to humans through lice. The main vector for typhus is the rat flea. Flea bites and infected flea feces in the respiratory tract are the two most common methods of transmission. In areas where rats are not common, typhus may also be transmitted through cat and opossum fleas.

The first outbreak of typhus was recorded in 1489. Historians believe that troops from the Balkans, hired by the Spanish army, brought it to Spain with them, (Altman, 1998). By 1490 typhus traveled from the eastern Mediterranean into Spain and Italy, and by 1494, it had swept across Europe. From 1500-1914, more soldiers were killed by typhus than from all the combined military actions during that time. It was a disease associated with the crowded conditions of urban poverty and refugees as well.

Syphilis

Syphilis is a sexually transmitted disease that causes open sores; delirium and rotting skin, and is characterized by genital ulcers. Syphilis can also do damage to the

nervous system, brain and heart. The disease can be transmitted from mother to child.

The origins of syphilis are unknown, and some historians argue that it descended from a twenty-thousand-year-old African zoonosis. Other historians place its emergence in the New World, arguing that the crews of Columbus's ships first brought the disease to Europe, (Altman, 1998). The first recorded case of syphilis occurred in Naples in 1495, after King Charles VIII of France besieged the city of Naples, Italy. The soldiers, and the prostitutes who followed their camps, came from all corners of Europe. When they went home, they took the disease with them and spread it across the continent, (Altman, L. (1998).

Smallpox

Smallpox is a highly contagious disease caused by the Variola virus. There are four variations of smallpox; variola major, variola minor, haemorrhagic, and malignant, with the most common being variola major and variola minor. It is believed that smallpox first emerged over 3000 years ago, probably in India or Egypt. There have been numerous recorded devastating epidemics throughout the world, with high losses of life.

Smallpox was a common disease in Eurasia in the 15th century, and was spread by explorers and invaders. After Columbus landed on the island of Hispaniola during his second voyage in 1493, local people started to die of a virulent infection. Before the smallpox epidemic started, more than one million indigenous people had lived on the island; afterward, only ten thousand had survived, (Altman, 1998).

During the 16th century, Spanish soldiers introduced smallpox by contact with natives of the Aztec capital Tenochtitlan. A devastating epidemic broke out among the indigenous people, killing thousands, (National Center for Disease Control, 2004).

In 1617, smallpox reached Massachusetts, probably brought by earlier explorers to Nova Scotia, Canada," (Altman, 1998). By 1638 the disease had broken out among people in Boston, Massachusetts. In 1721 people fled the city after an outbreak, but the residents spread the disease to others throughout the thirteen colonies. Smallpox broke out in six separate epidemics in the United States through 1968.

Leprosy

Leprosy, also known as Hansen's disease, is caused by a bacillus, *Mycobacterium leprae*. It is a chronic disease with an incubation period of up to five years. Symptoms often include irritation or erosion of the skin, and affects on the peripheral nerves, mucosa of the upper respiratory tract and eyes. The most common sign of leprosy are pale reddish spots on the skin that lack sensation.

Leprosy probably originated in India, more than four thousand years ago. It was prevalent in ancient societies in China, Egypt and India, and was transmitted throughout the world by various traveling groups, including Roman Legionnaires, Crusaders, Spanish conquistadors, Asian seafarers, European colonists, and Arab, African, and American slave traders. Some historians believe that Alexander the Great's troops brought leprosy from India to Europe during the 3rd century BC, (Kaplan, 2000).

Malaria

On Nov. 6, 1880 Alphonse Laveran discovered that malaria (then called "Marsh Fever") was a protozoan parasite, and that mosquitoes carry and transmit malaria, (Center for Disease Control, 2006). Malaria is a protozoan infectious disease that is generally transmitted to humans by mosquitoes between dusk and dawn. The European variety, known as "vivax" after the *Plasmodium vivax* parasite, causes a relatively mild, yet chronically aggravating disease. The West African variety is caused by the sporozoan parasite, *Plasmodium falciparum*, and results in a severely debilitating and deadly disease.

In 1492, malaria was a disease endemic to Europe and Western Africa. The variety from West Africa, *Plasmodium falciparum*, became a threat to colonists and indigenous people alike when it was introduced into the Americas through Africans transported in the slave trade.

Tuberculosis

The bacterium that causes tuberculosis, *Mycobacterium tuberculosis*, is generally spread when an infected person coughs and another person inhales the bacteria. Once inhaled TB frequently grows in the lungs, but can spread to any part of the body. If and when the disease does become active in the body, it can multiply rapidly, causing the person to develop many symptoms including cough (sometimes with blood), night sweats, fever, chest pains, loss of appetite and loss of weight. This disease can occur in both adults and children and is especially common among those with weak or undeveloped immune systems.

Tuberculosis (TB) has been one of history's greatest killers, taking the lives of over 3 million people annually. It has been called the "white plague". According to the WHO, approximately fifty percent of people infected with TB today live in Asia. It is the most prevalent, life-threatening infection among AIDS patients. It has increased in areas where HIV seroprevalence is high, (Yach, 2003). Air travel and the other methods of travel which have made global interaction easier, have increased the spread of TB across different societies.

HIV/AIDS

AIDS/HIV is among the newest and deadliest diseases in the world today. According to the World Health Organization, it is unknown where the HIV virus originated, but it appeared to have moved from animals to humans. It may have been isolated within many groups throughout the world. It is believed that HIV arose from another, less harmful virus that mutated and became more virulent. The first two AIDS/HIV cases were detected in 1981. The first case in Nigeria was in 1986. As of 2004, "...an estimated 39.5 million people worldwide are living with HIV," (World Health Organization, 2006). The WHO also reports that there has been a 50% increase in HIV-infected people since 2004. Despite efforts in numerous countries, awareness and prevention programs have not been effective enough to reduce the numbers of new HIV cases in many parts of the world, where it is associated with high mobility of men, poverty and sexual mores among certain populations, (Yach, 2003).

Conclusion

Evolution of disease presents a major threat in modern times. For example, the current "swine flu" or H1N1 virus is a new strain of an old form of flu, known for centuries as

Asian flu based on its origin on that continent. From 1918-1920, a post-World War I global influenza epidemic killed an estimated 50-100 million people, including half a million in the United States alone. A very recent case was the bird and swine flu that shook the world not long ago. In Nigeria alone, this saw the destruction of millions of chickens. H1N1 is a virus that has evolved from and partially combined with portions of avian, swine, and human flu, (Catanach, 2001).

Globalization has increased the spread of infectious diseases from South to North and from North to South, but also the risk of non-communicable diseases by transmission of culture and behavior from North to South. Disease movement had been from society to society. And as human and animal contacts continue, this trend is not going to stop. It is very possible that as globalisation continues to move large numbers of people around the world, new variants of diseases that may be resistant to current drugs and medicines may be emerging.

Recommendations

It is important to target and reduce the spread of infectious diseases in developing countries most especially. However, addressing the risk factors of non-communicable diseases and lifestyle risks in the South that cause disease, such as use or consumption of tobacco, alcohol, and unhealthy foods, is important as well, (Center for Disease Control & National Immunization Program, 2001). There is the need for intensified examination of people moving across national boundaries for the presence of diseases whether they be from the developed nations or the developing nations.

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