

Causes and Management of some Selected Re-Emerging Diseases

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Abstract

The paper presents an overview of re-emerging diseases with particular reference to Tuberculosis, HIV/AIDS and malaria in Nigeria. Tuberculosis is one of the respiratory diseases that affect all ages and sexes world wide. It remains one of the major communicable health problems in many tropical countries. HIV/AIDS has become a challenge to the world in general and to developing world in particular. The world is being seriously threatened by this deadly diseases of which no vaccine has discovered to prevent being infected. Malaria is a communicable diseases caused by the parasite called plasmodium. The infection is usually transmitted by the bites of infected anopheles mosquito. It examines the resurgence of these infectious disease. The causes, effects and management peculiar to each of the diseases highlighted. It was concluded that infectious diseases and its prevalence in Nigeria can be prevented through early vaccine and the use of health education to increase awareness/knowledge of infection disease persons through various health programmes.

Keywords: Re-emerging Infectious diseases, causes, effects, prevention and management.

Introduction

Diseases are illnesses that effect the normal functioning of the body. Nwegbu (2000), defined disease as illness or ailment that constitutes a departure from the normal health of an individual. Bessey (2002), opined that diseases are disorders of the body or mind. There are two categories of disease namely communicable diseases and non-communicable diseases. Communicable diseases are infectious or contagious diseases that can be transferred from one person to another, either directly or indirectly. Such communicable disease could be air borne like tuberculosis, insect borne – malaria, body contact/ broken skin, AIDS, scabies, syphilis, gonorrhoea. Non-communicable diseases are disease that are not transmitted from person to. Examples of non-communicable diseases include:- Food deficiency diseases like Anaemia Beri-beri, kwashiorkor, marasmus, rickets and degenerative disease caused by changes or growth in body cell like diabetes, cancer and heart diseases.

Emerging diseases are those new illness that have come into existence in a community town or nation. Examples of emerging diseases in third world countries include Acquired immune deficiency Syndrome (AID), Lasser Fever and Ebolar.

Re-emerging diseases are those diseases that are reoccurring in communities despite attempts to eradicate them. Examples of re-emerging diseases in third world countries are:- Tuberculosis, Scabies, Chicken pox, Typhoid fever.

In the nineteenth century, infectious diseases were the leading cause of death. These deaths came after exposure to the organisms that produced such diseases as smallpox, tuberculosis (T.B), malaria, influenza, whooping cough (pertussis), typhoid, diphtheria, and tetanus. We have human immune deficiency syndrome HIV/AIDS that threatens millions of people all over the world. In Nigeria, we have also witnessed the role of pelvic infections, resurgence of TB, whooping cough, polio, malaria and other serious childhood diseases as a result of failure of parents to fully immunize their children. This may lead to lower life expectancy for the country.

Akinsola (2003), asserted that there were three factors that must be present such as bacteria or virus, the host and the environment that will favour the survival of the agent. Following the exposure, whether or not the individual will be infected depends on the following factors.

How infectious the agent is (virulence), how strong the exposure is (in relation to the dose), the route of transmission, whether the person is resistant or susceptible to the agent.

Infectious diseases are a major health problem that causes serious sufferings, disabilities and even death (Achal, 2008). It also constitutes a social problem with grave consequences for the individual and society as a whole. Gupta and Ghai, (2007), observed that infectious diseases have long-term damaging effects on men, women and children as well as their economic consequences. Infectious disease can generally be transmitted from person to person, although the transfer is not always direct. Infectious diseases can be especially dangerous because it can spread to large numbers of people producing endemics or pandemics. Ani (2012), described infectious diseases as a group of communicable diseases that are transmitted predominantly by sexual contact and caused by a range of bacterial, viral, protozoa, fungal agents and ectoparasites which make up part of the

biological environment. Achalu (2008), observed that infectious diseases constitute ones of the major health problems in the world today causing various illnesses, disability and even death.

Sexually Transmitted Infectious (STIs) are communicable disease that exist due to unprotected sexual intercourse; early initiation into sexual activity, promiscuity, multiple sex partner, untreated conditions, body piercing, lack of immunity and poor access to contraception and treatment facilities (Mononkola & Okanlawon, 2003; Ene, 2004 & Agu, 2012). STIs may also; result due to the nature of the environment and the culture of the people. For instance if the environment is very corrupt and promiscuous, he or die may be tempted to join the bandwagon, thereby making STIs to thrive. Other factors predisposing STIs to thrive in our society include rural and urban immigration, prostitution, broken homes, sexual disharmony, easy money making venture and social disruption like war, fight, terrorism, civil unrest anti drug users (Achal, 200; Parks, 2009 & Ani, 2012). For a disease to be transferred, a person must come into contact with the disease producing agent or pathogens. The pathogens can sometimes reduce body defense systems; flourish, and produce an illness as shown in table 1.

Table 1: Factors contributing to emergence of infectious diseases

Factor	Specific Example	Example of Disease
Population Demographics	Rural/Urban distribution proportion immunosuppressed	Spread of dengus; increased reports of opportunistic infections.
Human behavior	Sexual practices; intravenous drug use complacency regarding immunization; use of child-care.	Spread of HIV, hepatitis C; increased incidence of vaccine preventable diseases; outbreaks of enteric illness.
International travel and commerce	Worldwide movement of goods and people; air travel	Dissemination of mosquito vectors; dissemination of 0139 chlera.
Ecological change	Agriculture; dams; changes in water ecosystems; deforestation/reforestation; flood/drought; famine; climate change.	Rift valley fever (dams); argentine haemorrhagic fever (agriculture); hantavirus pulmonary syndrome, United States of America (weather)
Technology and industry	Globalization of food supply; changes in food processing; widespread use of antibiotics	Outbreak of E. coli 0111, South Australia; antibiotic resistance
Microbial adaption change	Microbial evolution	Antibiotic resistance; pesticide resistance; antigenic drift in the influenza virus.
Breakdown in public health measures	Reduction in prevention programmes; inadequate sanitation and vector control measures.	Resurgence of tuberculosis in the United States of America; diphtheria in the former Soviet Union.

Adopted from Lederberg (2002), and Morse (2005) Shope and Oaks.

The focus of this paper is on the causes and management of some selected fears of many people on infectious diseases, the stigma associated with it, isolation and ridiculed of the victim by even their friends when they confer in them that they have contacted infectious diseases. Thus, people feel not talking about contacting some infectious diseases as they feel ashamed and the embarrassment to seek medical treatment. As a result, they prefer to consult traditional medicine men and the use of concoction to treat themselves. This led to the spread of the diseases ignorantly with the mind set that all is well. Fortunately, infectious diseases cannot only be prevented but most infectious diseases can be treated and cured hence there is need for health education to inform, educate and create awareness on the circumstances surrounding infectious diseases in our society.

Some of the selected diseases are:- Tuberculosis, HIV/AIDs and Malaria

Tuberculosis

Luku, Ibrahim, Nguku, Idris and Anibueze (2011), described TB as an infectious disease of humans and animals caused by the tubercle bacillus and characterized by the formation of tubercles on the lung and other tissues of the body often developing long after the initial infection. This has been earlier affirmed by Martin (2002), that TB is one of the leading causes of death in the world and more prevalence in the developing countries. TB spreads through the air when people with TB cough, or sneeze transmit their saliva through the air. TB is one of the major public health problems in Nigeria with the country raking 4th among the 22 high TB burden countries which collectively bear 80% of the global burden of TB (WHO, 2012).

Experts such as Fix, Strickland and Grant (1998) considered tuberculosis (TB) as a bacterial infection of the lungs resulting in chronic coughing, weight loss, and even death. Tuberculosis thrives in crowded places where infected people are in constant contact with others, since TB is spread by coughing. This includes prisons,

hospitals, public housing units, and even college residence halls. In such settings, a single infected person can spread TB agents to many others. When health people are exposed to TB agents, their immune systems can usually suppress the bacteria enough to prevent symptoms from developing and to reduce the likelihood of infecting others. When the immune system is damaged, however, such as in some older adults, malnourished people, and those who are infected with HIV the disease can become established and eventually be transmitted to other people at risk.

Symptoms

Symptoms of pulmonary tuberculosis (T.B. of the lung) include a cough that lasts for more than three weeks, loss of weight for no obvious reason, fever, production of blood-stained sputum, heavy night sweats, general and usual sense of tiredness as well as loss of appetite (Odelola & Lafteef, 2013).

Effects

TB affects the lungs in 80% of cases and 25% cases of TB affecting other part of the body organ. The effects of TB is noticed in the kidney, vertebral, spine and urinary tract, upper respiratory tract, meninges of the brain, lymph node and skin, (Mohsin, Hafiz, Wagaz, Razia & Nazeer, 2011). Brestow, (2012) affirmed that TB is caused by tubercle bacilli (TB germ) it affects the lungs and other part of the body, including the bones, joints and brain.

Prevention/Management of Tuberculosis

Multiple Drug-Resistant (MDR) TB has appeared. Increasingly prevalent in this country MDR tuberculosis is the result of patients inability to follow their physician's prescriptions when initially treated (for whatever reason, inadequate treatment by physicians and increased exposure of HIV-infected people to TB. Only 50 percent of people with this form of TB can be cured (World Health Organization, 1994).

Health officials are requesting that TB testing programmes be implemented and that infected people be identified, isolated, and brought into treatment, the nutritional status of the country should be improved and promoted through mass food production, immunization with B.C.G. Scouts for suspect and treat defaulters through T.B. and Leprosy control (TBL) unit. Avoid polluted environment that is exposed to dust and chemical fume. Houses should be well ventilated to allow free flow of air. Avoid over crowdedness. Public health education on TB causes, and control through well oriented health education programmes

HIV/AIDS

The emergences of HIV/AIDS have compounded the problem of infectious diseases. AID is a very deadly disease that has reached pandemic proportion, and it continues to spread all over the world, Nigeria inclusive. Since 1981 when HIV/AIDS was firstly identified in Nigeria, it has become a significant threat to everybody irrespective of gender or sexual orientation. Unfortunately, there is still no known cure for the disease for now Akorede (2004), that we have to rely on for now is preventive measures.

Causes of HIV/AIDS

According to Achalu (2008) & Briggs (2010), HIV is found mainly in the body fluids such as blood and blood products, sexual fluid such as vaginal secretions, semen and breast milk. Other causes of HIV/AIDS are exchanged of body fluids during sexual activity, sharing of contaminated needles or sharp objects, from mother to child during pregnancy, at birth or during breast feeding and blood transfusion.

Symptoms / Effect of HIV/AIDS

Some symptoms of HIV/AIDS are prolonged diarrhoea, white coating in the mouth or throat, persistent fever, loss of weight, enlargement of glands and brain tumor, general disability and death.

HIV/AIDS causes the death of adolescents and the working class of between 15-45 years old who are sexually active. These brings negative impact on the nation's economy and have contributed to skill shortages in a shrinking labour force, lack of incentives for investment and strained government budget (International Development Magazines, 2002 & AIDS Treatment NEWS, 2002).

Prevention of HIV/AIDS

Prevention through public information and awareness of the dangers of HIV/AIDS. Using health education programmes to prevent and change the behaviour of the people in sexual relationship - sticking to one reliable partner, avoiding multiple sexual partners, using of condom if you cannot, abstain from sexual intercourse, avoiding sex with prostitutes, avoiding oral or anal sex and treatment of other STIs, since the presence of other STIs increase the risk, of HIV/ AIDS infection.

Furthermore, avoid unnecessary contact with blood and screening of donated blood before use. Avoid

sharing of needles, syringes, razors and other skin-piercing devices and unnecessary injections or scarifications. Treatment and rehabilitation of drug users and encouragement of public participation in screening for HIV, while HIV⁺ - infected mothers should avoid getting pregnant and HIV screening before marriage is quite necessary.

Management of HIV/AIDS Patient

Since the disease has no cure for now, the treatment and management of the patient should be to limit the incidence and severity of the affected person. It is to slow the rate of the deterioration of the person's health, to prevent the spread of the disease and to relieve the patient and his or her family the enormous social and emotional implications. The patient should not be discriminated or feared but treated with love and understanding. The patient and family should be counselled that AIDS is not spread through causal contact but through sharing of personal effects like razor blade, toothbrush, including chewing stick, needle and syringe, sexual intercourse and blood transfusion. Some of the popular AIDS drugs to reduce the incidence and severity of opportunistic infections include AZT or zidovudin (ZDV), Reverse transcriptase and protease inhibitors which is a combination of three drugs with other antiviral drugs. Antiretroviral chemotherapy (ART) and highly active antiretroviral therapy (HAART) reduces the risk and slow down the multiplication of the virus thereby prolonging the life of the HIV/AIDS patients (Lucas and Giles, 2003).

Malaria

Human malaria has been recognized since the earliest period and malaria is one of the most important of all infectious diseases" because it is formidable global parasitic infection which continues to represent a major health problem in tropical countries in term of high morbidity severe mortality especially among children and is one of the major killer diseases after human immunodeficiency virus (acquired immune deficiency syndrome HIV/AIDS (Ogboi, Lawan, Sunni & Idris, 2007). Malaria in man is caused by four species of plasmodium, *P. vivax*, *P. malariae*, *P. ovale* and *P. falciparum*. However, plasmodium *P. falciparum* is mostly common in Africa, most virulent being particularly dangerous to children (Saganuwan & Adelaiye, 2007). Malaria is highly endemic in Nigeria and is one of the major causes of ill-health and about (10%) death in children under the age of five years. In Nigeria, the Federal Ministry of Health (2005) reports that one in four people suffer malaria fever at one time or the other, while 1.2 million children under the age of five years die annually of malaria. This was affirmed by (WHO, 2001) that malaria causes wide spread premature death and suffering imposing financial hardship on poor household and holds economic growth and development in living standards. The persistence of malaria as a public problem is partly as a result of resistance of malaria parasites to anti-malarial drugs and to insecticides by anopheles mosquitoes. For many decades, chloroquine was the main drug used, but because of its persistent and resistant of the disease, more potent anti-malaria drug are now being used such as quinine, and other anti malaria drugs. Malaria is endemic, dependent on a local symbiosis between infected anopheline mosquitoes and humans. The disease can be transmitted by contaminated blood and malaria infection supposedly accelerates the replication of HIV virus.

Prevention/Management

The keys to eradication of malaria includes the improvement in the standard of living, reduction in poverty, enlightenment campaign by Non- Government Organization (NGO), health education programmes, and the use of polypharmacy in malaria chemotherapy. Furthermore, people should avoid dirty environment. Elimination of the insect that transmit the disease, the use of treated net, use of polystyrene spheres floating on the top of static water, filling and draining unnecessary bodies of stagnant water. Others are covering water storage containers, eliminating mosquito breeding sites periodically, clearing of canals or gutters, reservoirs and fish ponds of weeds. This can be achieved through well planned and intervention health education programmes.

The reasons why these three diseases are emerging diseases:

- Deterioration/disappearance of TB control programmes in many parts of the world.
- Delay in diagnosing and treating of TB patients; resulting in continual spread of the disease poverty and its attendant problems.
- Environmental contamination
- Poor sanitation
- Overcrowding
- Crowded living conditions in the homes schools markets, churches and even offices
- Stress
- infections that affect the body immune system
- Emergence of the drug-resist and strains of TB
- Poor managed administration of anti TB drugs.

- High cost of treating patients with multi drug resistant TB; and Highly contagious nature of lethal strains of TB.
- Malaria is one of the communicable diseases that constitute a major health hazard world wide. In Nigeria and most developing countries of the world, malaria is the most common disease of all ages and sexes it has become an endemic disease in Nigeria. In almost every Nigerian home, there is prevalence of virus in the blood stream of somebody.

New information or contribution to knowledge

- General health promotion: The chain of transmission can be broken through general health promotion.
- Control of bovine Tuberculosis: Infected animals should be identified and eliminated by using tuberculin skin.
- Early diagnosis and treatment
- Routine screening method

The best way to control disease is to detect and cure infectious cases at an early stage. This not only helps those who are already sick but also help in controlling the spread of the disease to others. Apart from tracing infections, high standing of living, good housing facilities and isolation of patients, as well as balanced diet, immunization and radiological examination will yield good result. In controlling re-emergence of those three infectious diseases.

Why I choose the selected diseases

Because they are major health problems that causes serious sufferings, disabilities and even death.

Infectious diseases are the leading cause of death. This death come after exposure to the organisms that produced such diseases as Tuberculosis TB, Malaria. We have immune deficiency Syndrome HIV/AIDs that threatens millions of people all over the world. In Nigeria, we have also witnessed the role of pelvic infections, resurgence of TB, malaria and other serious childhood diseases as a result of failure of parents to fully immunize their children. This may lead to lower life expectancy for the country.

Conclusion

The paper revealed that a variety of pathogenic agents are responsible for infections condition. Three selected infectious diseases tuberculosis, HIV/AIDs and malaria were highlighted with respect to the nature of the disease, causes, symptoms, effects, prevention and management of the STIs. It was therefore concluded that STIs cannot be prevented but treated and thus remove the erroneous opinion/stigma that are associated with STIs.

Recommendations

1. Early detection isolation and treatment of those already infected including symptomatic and asymptomatic infection.
2. Vaccination campaign against infectious diseases. People should be given early vaccine to avoid and avert the infectious disease.
3. Early education of infectious diseases is quite necessary for our children right from primary school to tertiary institutions. This will help control the disease.
4. The use of health education to increase awareness/ knowledge of infectious diseases among Nigerian citizen through various governmental and non-governmental health programmes.
5. Incorporating infectious disease education into health education should be made a compulsory subject at all levels of education in Nigeria.
6. School teachers should be properly trained and acquire the desired skills to provide reproductive health counseling to students and the communities on infectious diseases and also creating a conducive environment that devoid of causing the spread of infectious diseases.

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