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CANCER AS A MAJOR KILLER DISEASE BY 2030

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Abstract: **Cancer incidents and mortality rate has been in an increase since 1990 and it is expected to go higher by the year 2030. Based on the demographic and the average annual percentage changes, death and the new incidences of cancer is expected to go higher. It is projected that Cancer will be the most killer disease if no measures are taken to curb the new incidences and to cure the disease. Lung cancer is projected to remain the most type of killer cancer all over the world as many people are exposed to causing agents which we cannot control for example air pollution. However, pancreases and liver cancer are expected to surpass breast, prostrates and colorectal cancer to become the second and third leading cancer death by 2030.As compared to HIV/AID on a graph, the slope shows that HIV/AID is on a decline while Cancer in on the rise since 1990. An increase in screening and prevention measures for cancer from all parts of the world can change cancer incidence and death rates but it will require a concentrated effort from the researcher health providers and the governments in making the readily available to all people.**

Keywords: **Cancer, Screening, Prevention, HIV/AIDS, Antiretroviral therapy, PAP test, GLOBOCAN, Infection, immunity.**

1. INTRODUCTION

Cancer is a disease that can affect any part of the human body. It creates an abnormal cell that grows beyond the usual boundaries which can then invade adjoining to other parts of the body. It usually has the capability to spread to other organs all over the body in uncontrollable manner. Cancer is a transformation of normal cells into the tumor which later spread gradually to different parts of the body in a multistage process. If not discovered in the early stages it makes it hard to control. According to the research, the most common type of cancers that have killed many people include: - lung cancer, breast cancer, colorectal cancer, skin cancer, and liver cancer. Cancer is one of the major killers all over the world, killing many people compared to AIDS and many killer diseases combined together ("Cancer | A Killer Disease - Introduction and Types of Cancer", 2018). Cancer has been a major problem all over the world which has made it hard to control and at the end killing a big number of people from every part of the world. For the past years, millions of people have been diagnosed with cancer and eventually die from the cancer due to lack of treatment and the early stages. In many countries cancer is ranked as the second killer disease from cardiovascular diseases, AIDS and many other diseases combined. With the significant treatment and prevention cancer will soon or has become the major killer disease all over the globe. Cancer death is increasing to more than double worldwide over the next decades, largely from the dramatic increase in cancer mostly in low and middle-income countries where tobacco use and change in lifestyle is a major problem. In this paper I will discuss cancer as a world killer disease by 2030; and I will also compare cancer with HIV/AIDS as it has also been a killer disease.

Aging is seen to be another increasing factor in the development of cancer. The incidences has increased a lot with age, maybe due to the buildup risk that are related to age. Older people tend to be at the risk of getting cancer due to the overall risk accumulation for cellular repair mechanism which is less effective when a person gets older. The report shows that by 2030 new cancer cases and cancer deaths will be experienced each year all over the world. Based on the current trend the rate at which cancer cases are reported, it shows that it will grow by one percent annually same as deaths from other diseases. Smoking and another lifestyle factors like obesity will overtake chronic infections as the leading cause in developing countries.

2. CANCER AS A BURDEN ALL OVER THE WORLD

According to GLOBOCAN 2002 cancer database on morbidity and mortality in the various geographical region, which is calculated using the five age group of 0 to 14, 15 to 44., 45 to 54, 55 to 64 and above 65 years, the biggest number of cancer incident was recorded in East Asia with 2.8 million patients, affecting all ages with a different type of cancers, the second being Northern America and Southern central Asia with 1.5 and 1.2 million respectively. The number of cancer patients varied from different regions substantially. For example, in East Asia the most type of cancer at the age between fifteen years and above was stomach cancer ranging at 18 percent followed by lungs cancer with 17 percent and liver cancer with 14 percent. While those in Northern America were prostate cancer to 15 percent, breast cancer at 14 percent and lungs cancer at 14 percent. According to the statistics, it showed that different regions had a different type of cancer affected with different percentages.

In both male and female, cancer incidents increased substantially with age in all parts of the world. For example, the cancer incidence in Western Africa in the age between 0 to 14 years in a year ranged at 6 percent, 9 percent in Eastern Asia, 14 percent in Europe and 15 percent of 100000 in northern America. In the same region the rate at which those at the age of 65 years or older were 385,1461,2327, and 2958 per 10000 respectively. The highest rate of cancer in 2002 was experienced in Northern America, New Zealand, and Europe while the lowest cancer patient was in North and Western Africa. Geographical variation was substantial in a different region in that the age-standardized rate in the Northern American males by 398 per 100000 which is four times of that in the Northern African that ranged at 99 percent of 100000 in a year. Sample of the top most reported cancer incidents in both sexes.

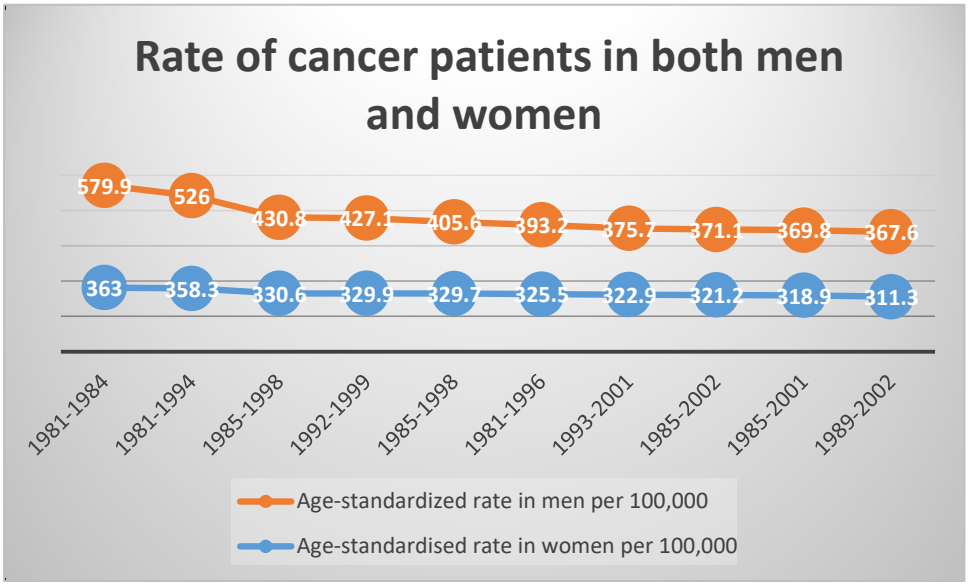
Rank	**Country**	**Age standardized rate per 100000**
1	Australia	468.0
2	New Zealand	438.1
3	Ireland	373.7
4	Hungary	368.1
5	US	352.2
6	Belgium	345.8
7	France (metropolitan)	344.1
8	Denmark	340.4
9	Norway	337.8
10	Netherlands	334.1

The geographic difference in cancer incidence is contributed by various factors which include environmental factors, lifestyle and social economic factors all over the world. In developed countries, different types of cancer cases that are highly reported include breast, colon, prostate and cervical cancer that are identified through screening. On the other side, in less developed countries screening may not be common therefore fewer cases are identified ("American Cancer Society | Information and Resources about for Cancer: Breast, Colon, Lung, Prostate, Skin", 2018). Due to lack of early checkups, treatment and enough knowledge about cancer people may end up not knowing that they have cancer, and if it is not identified at the early stages where it can be managed it is hard to control it and at the end causing death to many people. Genetics may also play a major role in causing cancer but observed in the relative percentage of the population. Genetic factor is where an individual gets cancer from inheritance; that is if once parents or relatives have cancer the probability of having cancer in future are high. Though it does not mean that it is a must one to get cancer but some people may get it through that factor. Research shows that the major cause of cancer incidence is caused by a combination of genetic, environmental factors, and lifestyle. **Sample** of ten top most reported cancer incidents in men.

Rank	Country	Age-standardized rate per 100,000
1	Australia	600
2	New Zealand	527.0
3	Ireland	420.8
4	Hungary	427.1
5	France s	405.6
6	US	393.2
7	Latvia	375.7
8	Belgium	371.1
9	Norway	369.8
10	Slovenia	367.6

Sample of ten top most reported cancer incidents in women

Rank	Country	Age-standardized rate per 100,000
1	Australia	363.0
2	New Zealand	358.3
3	Hungary	330.6
4	Belgium	329.9
5	Canada	329.7
6	Denmark	325.5
7	Ireland	322.9
8	US	321.2
9	Netherlands	318.9
10	Norway	311.3



3. MAJOR RISK FACTORS OF CANCER

Use of tobacco

Role of tobacco smoking has greatly contributed to a big number of cancer patients for many years all over the world. Cancer caused by tobacco includes lung, urinary, upper respiratory tract, pancreas, stomach, and liver cancer. A big percentage of cancer patients of lung cancer are caused by tobacco smoking, which has an increasing death rates all over the world. Many people tend to ignore the causes or effect of smoking where they end up dying of lung cancer. The rate of smoking in developed countries has greatly reduced as many people have been able to know problems that come with smoking tobacco and the effects it brings to their health. In a year, an approximate of 5 million people die due to the use of tobacco all over the world, by 2030 according to the current trends, its shows that the number is likely to increase to 10 million if nothing changes with 70 percent of death occurring in developing countries. To reduce death rates related to the use of tobacco, it is good to adopt policies like increased tax on tobacco, spread of information on the risks involved in tobacco smoking, restriction of smoking in public and workplaces, ban of advertisements and promotion of tobacco and increased access to therapies to reduce the cases of cancer and other diseases that are caused by smoking of tobacco.

Occupational exposure

Occupational exposure has been grouped to be among the highest causes of cancer to many people around the globe. Some of this carcinogenic exposure are ionizing radiation, asbestos, silica, dust, and benzene. It is obvious that developed countries underwent industrialization before the developing countries, therefore people living in industrialized countries are at a high risk of getting cancer from being exposed to various occupational exposures. In less developed countries most of them are found to have undergone some economic transition from primary agricultural activities, therefore, it is

hard for an individual to be exposed as those in developed countries. For example, in United States, the occupation standard for benzene which is a highly used chemical and a well-known human carcinogen is 3mg/m. Whereas in China was 40mg/m3 in between 1979 to 2002 which is higher. According to the level of toxicity observed in workers exposed to benzene below the level of 3mg, the effect has been too severe in that the occupation standards of benzene need to be reviewed and evaluated.

Environmental exposure

Environment contamination is experienced through different types of Air pollution which increase the risk of getting cancer. Almost half of the world population rely on cooking and heating with solid fuels such as coal, dung, and wood to meet their basic energy needs which may end up polluting the air if used without a chimney. This smoke contains damaging substances which contain soot or dust that many damaged lungs increasing the risks of getting lung cancer and other diseases. This type of exposure is mostly experienced in poor families and in less developing countries (Bradbury & Angibaud, 2010). Pesticides are also part of environmental exposure where the poor quality ones contain dangerous substances and impunities that have already been banned which poses a serious threat to the environment and at the end putting human health at a risk of getting cancer.

Infectious agents

According to the research by GLOBOCAN 2002, an estimate of 1.9 million cancer cases was attributed to various infections which were considered to be cancerous. Infections such as Helicobacter pylori increases the probability of getting stomach cancer. Other infections include hepatitis B and C which can give rise to the risk of getting liver cancer. Among children in the developed and developing countries, the relationship between the social-economic factor and acquiring Helicobacter pylori varies from 8.9 and 72 percent. Significantly high infection of hepatitis B and C are experienced in developed countries. Higher risks of getting stomach and liver cancer are experienced in developing countries more than in developed countries due to the high risks of related infections.

Diet and physical activity

Excess calories in bodies may be a contributing factor to cancer. This is brought about due to improper dieting and is experienced more in developed countries more than in developing countries. In many developed countries, half of the country's population are obese and overweight which according to the research it has been linked to colon and breast cancer. These types of cancers are related to a lifestyle where people take in excess of calories and at the end gaining a lot of weight to obesity. Physical activity should be a must so that the excess fats can be utilized to reduce the risks of getting diet-related cancers. The type of lifestyle may result in insulin resistance causing health problems such as s cancer, type two diabetes, and cardiovascular diseases. Diet and inactivity type of cancers cases are reported to be seen both in developed and developing countries. It is advisable to exercise so as to reduce excess weight and activate our bodies (Bradbury& Angibaud, 2010).

Cancer mortality

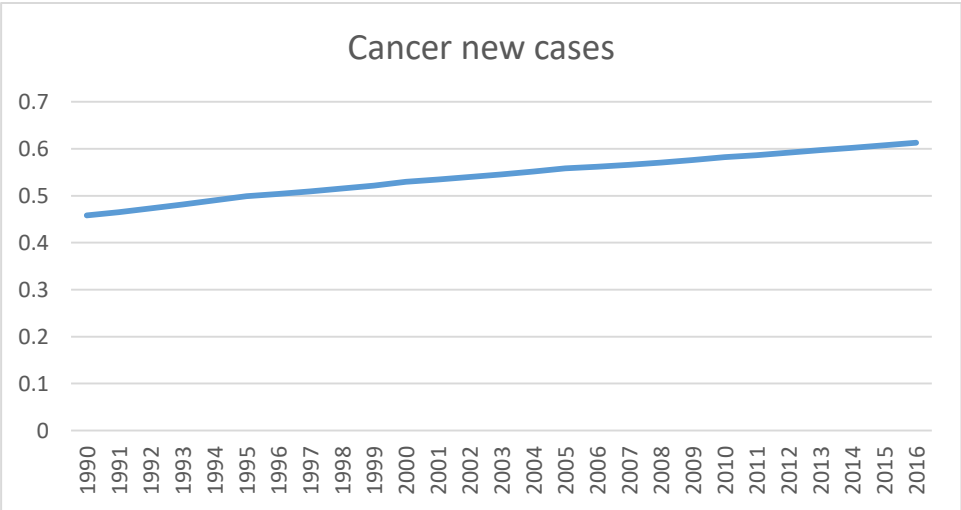
According to the research by GLOBOCAN 2002, the largest rate of cancer death experienced is totaling 3.3 million including 1.9 males and 1.3 female cancer victims. Europe is the second with a population of 1.7 Million and North America being the third with 631,971 people. The rate of reported death caused by cancer increased dramatically with age for both male and female. For the male, the highest death rate was experienced in Eastern Europe and the lowest in Western Africa. The geographical cancer mortality was not substantial to that of cancer incidence. In developed countries, there was a relatively low rate of cancer mortality even with the increased reported rate of cancer incidence (Yount, 2014). In developed countries, people tend to discover cancer at its early stages due to the availability of readily available screening equipment, and it is managed or one tends to get cured if he or she goes for chemotherapies.

On the other hand in developing countries relatively high cancer mortality rate was discovered, despite having low cancer incidence. This is due to lack of enough knowledge on cancer, where they should go for screening for safety purpose so that one can be able to know if he or she has cancer or is prone to cancer. In developing countries, most of them do not have cancer screening equipment and therefore one is forced to raise a lot of money so as to travel overseas for treatment. Most of the developing countries cannot afford to raise the amount of money required for cancer treatment and they end up dying. The mortality rate in developed countries in male was experienced more than in the developing countries and a similar patent in the female. (Schottenfeld& Fraumeni, 2016). There is a big difference between developed and developing countries incidence of cancer due to the different status and living standards. For example, prostate cancer is

experienced more in the developed countries than in developing countries because it is associated with good prognosis and it has no severe impact on survival. Cervical and colon cancer can be improved when identified at its early stages through effective screening. In the developing countries, they may lack cancer equipment to carry out large-scale screening. Cancer surveillance and vital record of the cancer patient is a contributing factor to the apparent difference in cancer incidence. The **table and the figure** below show the rate of cancer incident cases from 1990 to 2016, and according to the research cancer incident has continued to increase which is expected to continue in future if cancer does not get proper management.

Year	New cases recorded
1990	0.458239905
1991	0.46508507
1992	0.472971656
1993	0.481376131
1994	0.49027529
1995	0.499319121
1996	0.503594287
1997	0.509003781
1998	0.515380698
1999	0.521542873
2000	0.52976077
2001	0.534737679
2002	0.540103995
2003	0.545496577
2004	0.55169881
2005	0.558362896
2006	0.561862501
2007	0.565629212
2008	0.570707983
2009	0.575757216
2010	0.581860613
2011	0.586400776
2012	0.591653312
2013	0.596923538
2014	0.601822154
2015	0.60715074
2016	0.613061865

The graph representation of the above data



4. THE FUTURE INSTANCE OF CANCER

Currently, cancer is a disease of old age, a big number of cancer patients ranges from the age of 65 and above. In an instance where all factors remain the same, that is population growth and increased number of the old individual to the population it will lead to an increase in cancer patients. According to the research 2002 by GLOBOCAN, cancer incidence will increase annually which with be a worldwide disaster if not controlled with all measures. This calls for an improvement in understanding all the risk factors to cancer and come up with a strategy to prevent the causes of cancer and develop a better and more effective way of treatment.

Population between developed and developing countries is different. In the developing countries there is a smaller percentage of older people compared to developed countries. Therefore, if cancer patients increase within the same age the burden will continue to increase heavily to those countries than the developed counterparts. It is not only because of lack of knowledge or population but because there are more aggressive cancers cases and low cure rate. The study argued some cancer-causing factors can be reduced, vaccines treatments such as treatment of infection like human papillomavirus which is the main cause of cervical cancer can be reduced through vaccination. According to the study in 2015, concluded that one-third of cancers are attributed by the environmental factors or genetics and the majority showed that the random mutation that occurs when DNA replicates in normal non-cancerous cells. The study also argued that beyond some cancer types which are deterministic and can be reduced through lifestyle factors of vaccines are minimal. In general, the most promising approach to reduction of cancer is the early detection of cancer so as to undergo an immediate treatment to reduce the spread of those cancer cells to other parts of the body. According to the report a, there has been an increase in cancer infection more on low and middle-income countries which vary according to mortality rate. For example, one of four cases in developed countries is related to infection related to cancer compared to one in ten cases is experienced in developing countries. The difference between developed and developing countries vary in prevention and control strategies used to reduce that burden of cancer (Longenecker, Kritchevsky& Drezner, 2013). Despite the good news that cancer incidence and death rate in men and women to decline, cancer is projected to be the killer disease by 2030 all over the world. Both low and middle-income countries will continue to feel the impact of cancer incident and death rates more than developed countries.

5. ACTIONS TO REDUCE MORE CANCER INCIDENCE

Developing vaccines to prevent cancer-causing infections can be readily available to everyone, more so in the low and middle-income nations. This included combating cervical cancer that is more prone in low-income countries, through vaccine and immunization effort to make HPV vaccine available and affordable. Also, the availability of the Anti-retroviral drug for HIV infected patients will help reduce the cancer-related burden that is caused by this infection. Coming up with a policy to control tobacco use, it his includes taking measures proven effective in reducing the rate of smoking all over the world. Such as imposing higher taxes to tobacco users so that the rate of tobacco use will be reduced.

Supporting efforts of the non-governmental organization to building advocacy in empowering cancer survivors and provide treatment to them. These will help in reducing suffering in low and income countries through working with the respective government in enabling the individual to practice healthy behaviors. Governments should also promote cultural sensitive risk reduction and campaign by leveraging success through efforts to building the capacity of a non-governmental organization in different counties (Miller& Nin, 2015). Investing in cancer research so the government can know how to prevent its people from getting cancer and focus on prevention and early detection measures. If cancer is detected in its early stages it is easy to control it. Therefore, if the government focuses on investing on cancer screening machine it will help a large number of people to know if they have cancer and take the necessary measures as soon as possible.

Another important area that should be taken care of is education and training. People should be trained on how to prevent themselves from cancer-causing agents to reduce more incidence of cancer. Cancer training is the principal element in a cancer control strategy, if people who smoke would be taught or undergo training on the effects that smoking can bring to their life some of them maybe would stop smoking therefore reducing the risk of getting cancer. Some tend to ignore that smoking can cause cancer and continue to smoke more and more endangering other people's life who get to inhale that smoke indirectly from those around them when they smoke.

There are many cancers related diseases but in this paper, we will discuss the comparison between HIV / AIDS and cancer as the most recorded killer disease.

6. HIV/AIDS

Human immune deficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) is an infection that affects the immunity of human being. Aids is a gradual failure of the immune system that results from a heightened risk of life-threatening infections such as cancer, tuberculosis. HIV is transmitted between people through the sharing of body secretion such as blood and semen. However, it is also possible for a pregnant mother to transmit HIV to her child during pregnancy or during childbirth or through breastfeeding. One can also be infected with HIV through non-sexual transmission by sharing injection such as needles. A person with HIV is at a risk of getting other life-threatening diseases as HIV weakens the immunity of an individual. When HIV causes symptoms and other specific diseases syndromes, the disease is called AIDS, it is the last stage of HIV. HIV / AIDS has been reported to be a contributing factor to some cancer incidences all over the world bringing to an increase to mortality rate due to cancer (HOOD, 2013).

HIV infection varies with age all over the world and in the latest study, it shows a great decrease of HIV related death. According to the study in 1995, the estimated number of deaths related to HIV/AIDS was approximately 280000 which increased to peak by the year 2005 and 2006 to 1.9 million. With the discovery of antiretroviral medicine and treatment that has been able to manage the spread of HIV Infection and the number of deaths reduced a lot by 2016. HIV/AIDS has been reported to affect young people, most of young people are sexually active and as this disease is high transmitted through body secretions if one is having unprotected sex with an infected individual, he/she directly gets infected with the disease. Many young people tend to be irresponsible with their sexual behaviors having multiple partners and at the end they end up increasing the disease. HIV patient in the recent years got a relief where the introduction of antiretroviral medicine was invented.

The table and figure below shows the trend on HIV/AIDs since the year 1990.

Year	Average of New infections of HIV/AIDS
1990	41623.35292
1991	42605.98152
1992	45028.51973
1993	49034.80287
1994	55237.92112
1995	64950.12387
1996	63296.35967
1997	62679.82439
1998	62837.0901
1999	63783.18099
2000	65809.55549
2001	61067.70722
2002	57390.76009
2003	54468.31312
2004	52158.5571
2005	50653.07755
2006	49771.50664
2007	49172.53059
2008	48820.71815
2009	48689.86966
2010	48940.63146
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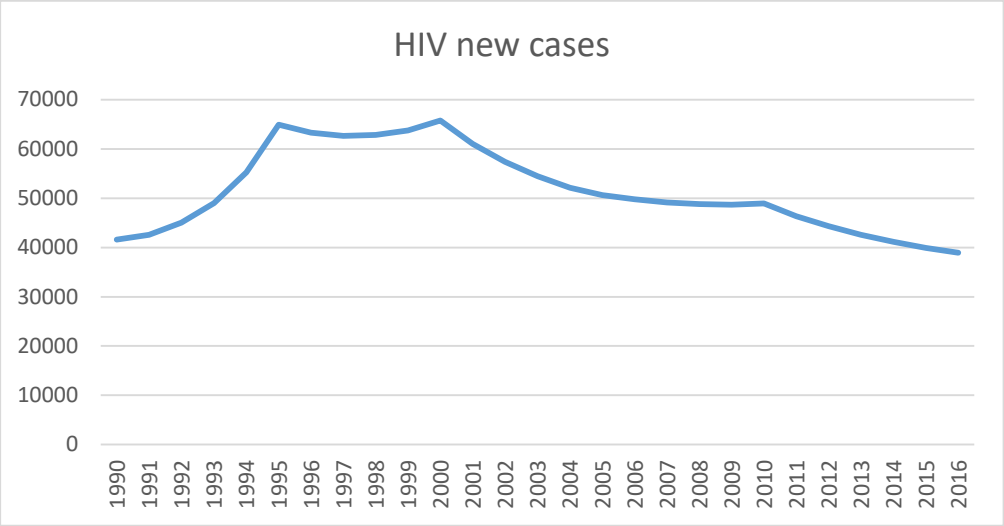
2012	44339.58804
2013	42610.14248
2014	41140.42444
2015	39904.75673
2016	38945.20035



7. ANTIRETROVIRAL THERAPY

ART is a highly active medicine in suppressing HIV infection from multiplying, ARTs reduces the amount of virus that is found within the blood of an infected person by slowing down the progress of HIV disease (Hivaids epidemic in puerto rico, 2008). This medicine has helped to reduce death cases caused by HIV and reducing the level by which it is spread from one person to the other. From 2016 according to the study, the spread of HIV has been manageable compared to other killer diseases. The major cause of HIV infection is through sexual activities which can be prevented by the use of a condoms. Also, the increased training of HIV on the practice of safe sex that is the use of condoms among multiple partners have also reduced the transmission of HIV/AIDS.

Deaths reduced from antiretroviral therapy

To reduce the amount of HIV around the globe the government should improve the level of HIV infections in preventing further transmission as well as improved treatments for those living with the infection. Medication on antiretroviral therapy involves the suppression of the spread of the virus, therefore, suppressing it to reduce the amount of virus in the blood. The introduction of antiretroviral therapy greatly reduced the number of deaths from HIV /AIDS. The number of HIV death rates greatly reduced through the introduction of antiretroviral therapy. The number of death rate reduced with almost one million from 2000 to 2002. All over the world, the number of deaths reported in 2016 was reduced as a result of ARVS which was greater than the one million deaths reported before the introduction of the treatment (Stolley & Glass, 2018). . This shows that if there could be no ARTS death rate would double the annual number of people who die out of this disease.

HIV in children had increased in the 1990s to 2.3 million between the age of 14 and below which was through mother to child transmission. With the introduction of the antiretroviral drug the infection between mothers to child decline to 1.8 million in 2015. New children infection had also increased in the early 2000s all over the world ranging at 500000 new infections per year which later followed a rapid decline over the last decade to 150000 new children being infected with HIV.

Death reduced through training on HIV /AIDS

Educating people on HIV is an important factor to reduce further spread of the infection. The different non-governmental organization took part in educating people on ways to prevent themselves from getting the infection which greatly took a positive response all over the world.

HIV impact on life expectancy

Life expectancy reduced with an increased rate of HIV incidence in the 1990s all over the world. Many people died regardless of the age during this period. Life expectancy started to increase in 200s since the introduction of antiretroviral therapy which has been able to manage the spread of HIV infects all over the globe, but still, it has not returned to the level at which it was prior the aids crisis.

Tuberculosis with people living with HIV/AIDS

TB is a disease that is prone to people living with HIV. It is mostly experienced in low and middle-income countries and it is the leading cause of death globally. Tuberculosis still remains a killer disease to people living with HIV if they do not

undergo full treatment. However, some changes have started to be seen because most of the patients have accepted to undergo full medical treatment and have accepted their condition. Many of HIV infected patients died due to lack of acceptance, where some of them fail to go for treatments when they find that they are HIV positive. When one gets to know his/her status he/she is expected to undergo treatment, it not taken to hospital he/she tends to give way to other deadly infections such as TB which might end up killing them within a short time if not taken care. Most of the mortality due to tuberculosis are those from HIV patient which is mostly experienced in sub-Saharan Africa.

HIV crisis did not only affect the health of an individual but it brought an impact to communities, households and the economic development to the whole nation. Lots of many were required for the treatment of HIV/ AID which brought a big problem to all people related to the infected individual(Loue, 2013).. It is a disease that gave people problem in terms of treatments and taking care of their infected individual. The relief came in after some years when antiretroviral drugs were made available to all people from a different background which has made the disease manageable in recent years. Many countries in the world the hardest hit was by HIV as it suffered from other infectious diseases, food insecurity, and other serious problems. Despite these challenges, there have been a success and promising signs in that of a global effort that addressed the epidemic as a national disaster where different non-governmental organizations such as WHO, UNAIDS, and many others came in to help in finding a way to reduce the problem.

Failure to control the spread of HIV is currently seen as poor governance in that their invention of the controllable medicine form the HIV virus is already in place and the work of the government is to make it available to all its citizens. The government is supposed to control income inequality, gender, labor-migration, conflict and refugee migration which can be a major cause to the spread of the Virus.

People who are infected with HIV or AIDS are more prone to certain types of cancer that people who are no infected rarely get. These types of cancers are known as AIDS-defining cancers, the include Kaposi's sarcoma, invasive cervical cancer, and non-Hodgkin lymphoma cancer.

Kaposi's sarcoma is a type of cancer that develops from the cells that line the blood vessel or lymph nodes and can be spread to other parts of the body very fast. In most cases, people with a type of cancer have dark purple of brown spots on the skin or mouth. Some of its symptoms are swollen lymph nodes, weight loss, and unexplained fever.

Invasive cervical cancer is cancer that is linked to the cervix. It forms tissues in the tissues of the cervix and becomes invasive when these tissues become bigger and go into a deeper layer of the cervix. This type of cancer is strongly related to human papillomavirus (HPV), which is a type of infection related to HIV and can be detected through a PAP test. Its symptoms include unusual discharge, abnormal bleeding or pain during sex.

Non-Hodgkin lymphoma is a type of cancer where cancer cells form in the lymph system and can easily spread to other parts of the body. There are many types of this cancer but the most recorded ones from AIDS patients are B cell immunoblastic lymphoma, diffuse large B cell lymphoma, and small noncleaved cell. Symptoms related to this type of cancer are painless swollen lymph nodes, night sweats, fever, and unexplained weight loss.

People with HIV are also at risk of developing mouth cancer, throat cancer, head and neck cancer pine and virginal cancer. The rate at which this types of cancer is likely to increase is nineteen-time to people living with HIV compared to those who do not have. The risk of having anal cancer has increased to those men who have HIV and their sexual partners are men.

8. TRENDS BETWEEN HIV AND CANCER

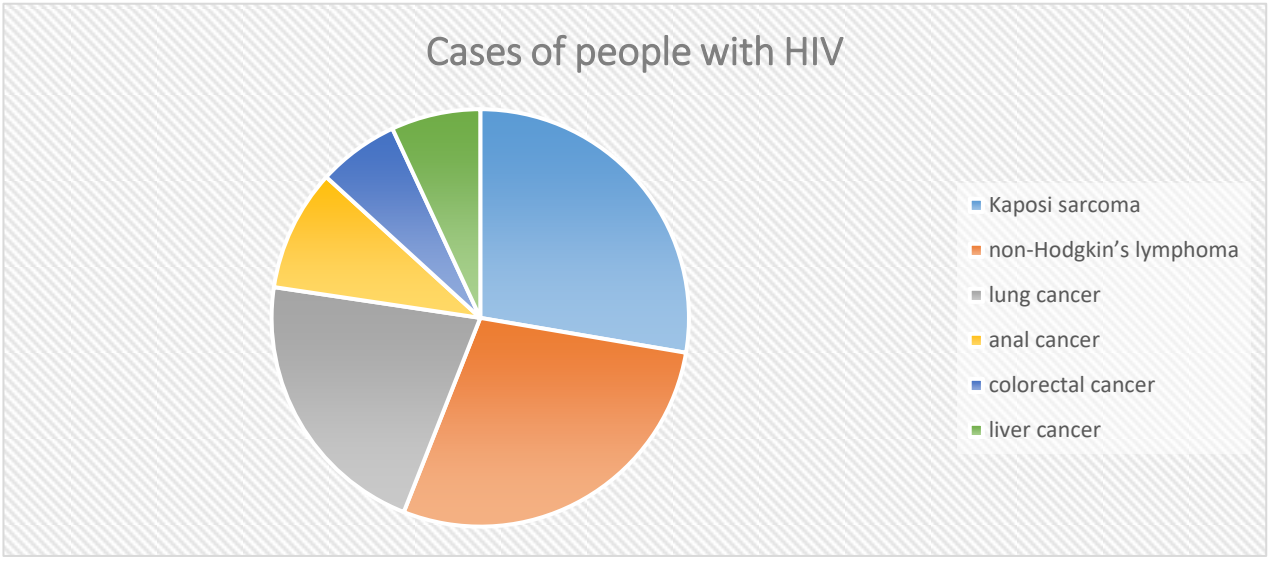
According to the research and design studies by the North American AIDS Cohort Collaboration from 2003 to 2010 about 300000 people were examined with HIV and cancer cases. The research took 86000 people living with HIV and 200000 without HIV to the study and the incidents published were as follows.

CANCERS RELATED TO HIV CASES		
Cancer	Cases of people with HIV	Cases of People without HIV
Kaposi sarcoma	4.4%	0.1%
non-Hodgkin's lymphoma	4.5%	0.7%
lung cancer	3.4%	2.8%
anal cancer	1.5%	0.05%
colorectal cancer	1.0%	1.5%
liver cancer	1.1%	0.4%

The study also found that the mortality rate on HIV and AIDS increased with nine percent every year, which can also increase the risk of developing cancer. Compromised immunity increases the risk of getting cancer as it allows cancer cells to spread faster than in people who do not have HIV. The discovery of antiretroviral therapy brought relieve to HIV infected individuals. ARTs reduced the level of HIV that circulate within the blood-boosting the immunity of a person with HIV to fight the virus. At least the level of cancer deaths has been regulated with the introduction of the ARTs and the introduction of HIV / AIDS awareness where people have been through on how to protect themselves from getting infected by this deadly disease. Cancer remains to be at the top as it has recorded the highest mortality rate all over the world. Many people have been affected either as the deadly diseases have killed their loved ones (Wellcome Trust ,2001).

Treatment of HIV and cancer

The treatment of cancer to people with HIV depends on the type of cancer, stage at which the cancer is detected, the overall health of the person with HIV, the immunity function that is the CD4 count and viral load and lastly the reaction to the medication. When a person goes through all those checkups, he/ she must go through the same treatments that a person who has no HIV takes. There are set standards of cancer treatments that must be taken by a person who has cancer. These standards include chemotherapies, radiations, immunotherapy, surgeries, and targeted therapies and therefore many things are to be considered in cancer treatments as there are many risks involved with undergoing those treatments. A compromised immune system can make those treatments to fail and therefore HIV patients must undergo some other body checkups to make sure that they will be able to undergo all the treatments required.



If there was no HIV treatment therapy the world will be in a mess for having two different deadly killers that could not be controlled Page, Bezuidenhout, Pakkiri, & Jacobs, 2016). In fact, HIV/AIDS could be number one as it involved messing with human immunity, therefore, killing people very fast. Immunity is very crucial in human beings as it helps in fighting diseases that attract out bodies. Therefore, any disease that affects the body Immunity fight the human security giving way for other infections to take over killing that person very fast. Therefore, when cancer attacks a patient with HIV, he/ she is at a risk in that cancer treatments might fail dues to lack of enough immunity and might end up dying within a short time. Globally, many countries have been able to regulate HIV/AIDS infections by making antiretroviral treatments available to all people infected by the virus at an affordable cost. And at the end, the mortality rate on HIV infection has reduced globally increasing life expectancy for HIV patients. While on the other hand cancer can only be managed when it is discovered at its early stages. The cost of treatment for cancer is very expensive and not all people can afford to undergo this treatment and at the end, many people end up dying. Cancer continues to become a killer disease all over the world. so many this is a cause for cancer and with the developing world, we tend to be more close to cancer-causing agents which are hard to evade. The government should take part in ensuring that all cancer treatment machines available in all hospitals so that cancer patients can get access to them. If these cancer detective and treatment equipment are made available in all hospitals it will help in reducing the mortality rate of a cancer patient will reduce and their lifespan increased. If cancer treatments are made available in all hospitals around the country, the cost of cancer will be reduced and anyone who has cancer will be able to access the cancer treatments. The number of death caused by cancer is influenced by three different factors that are the actual change in the prevalence of cancer, change in population and the age.

According to the research the highest death rate recorded appeared to be in older people as they are prone to getting cancers such as the prostate. At a global level, the rate of cancer deaths has increased drastically for more than 50 percent since the 1990s. however, if cancer treatments are made available at all levels the level at which people are dying of cancer may reduce, as it will help discover cancer in its early stage and the patient starts the treatments as soon as possible to reduce the spread of those cancerous cells.

Survival rates of cancer

Despite the cancer crisis all over the globe, cancer death rates have reduced in a relative percentage. This is has contributed to early cancer detection and improved treatment. This has mostly happened in the developing countries where cancer treatments are made available to all people who are in need of it and at an affordable price. All cancer patients are allowed to go for treatment from any health facility around them at an affordable price. High cancer mortality rate has been reported from low and middle-income countries where cancer treatments are not readily available to all people and are expensive to afford. Most of these people are forced to travel overseas in search for better treatments which is expensive, and cancer treatment have stages where each treatment requires a lot of money and to complete all the treatments you must have a lot of money. Most of this people die to lack of treatment and the end reduced the life expectancy of a cancer patient. But in overall cancer survival rate has increased from 50 to 60 percent. This increase of the cancers survivors is as a result from the combination of both early detection and improved treatments. However, this changes varies with the type of cancer that one is suffering from. the progress of some cancers has been very large, for example, the survival rate for prostate cancer patient has increased from 68 to 99 percent over this period (Libman, Makadon, & American College of Physicians, 2017). And on the other rate, the survival rate of cervical and uterus cancer has declined since the 1970s due to lack of proper treatment and early detection. There is still a major difference in survival rate such as prostate and thyroid which have 98 and 99 percent while those at the bottom of the spectrum that is pancreases, liver, lungs, and esophagus have less than the percent probability.

The overall contribution of genetic factors is the DNA replication and the tissue type verses external exposure which has been the dominant topic within cancer research. The outcome of 2002 studies as they help people understand that if the dominant factors are found to be dominant at the early stages it is the best opportunity to reduce the cancer burden. Therefore, the most common recorded causes of cancer are the external factors and environmental factors that include air pollution, smoking, and many others. External and environmental factors dominate as the main causes of cancer (International, 2010). The study argued some cancer-causing factors can be reduced vaccines treatments such as treatment of infection such as human papillomavirus which is the main cause of cervical cancer and can be reduced through vaccination generics and the majority showed that the random mutation that occurs when DNA replicates in normal non-cancerous cells. The study also argued that beyond some cancer types which are deterministic and can be reduced through lifestyle factors of vaccines are minimal. In general, the most promising approach to reduction of cancer is the early detection of cancer so as to undergo an immediate treatment to reduce the spread of those cancer cells to other parts of the body. The study argues that the role of chance in cancer developed was overstated and the role of environmental exposure was understated (Israël & Schwartz, L. (2010). By using the risk exposure related to explaining it all shows that there are many different factors that contribute to cancer burden and mortality outcome. These risk factors include a wide range of smoking, diet and nutrition, alcohol intake, obesity, air pollution and some environmental exposure such as carcinogens. All these factors surround as from all perspective and it is sometimes hard to avoid them. For example, air pollution. One cannot be able to control it unless the government puts in some measures to control (Richards, 2015). The overall global cancer deaths are caused by air. According to the study in 2015, concluded that one-third of cancers are attributed by the environmental factors or pollution and some environmental factors. For example, bronchus and lung cancer deaths are attributed by risks of smoking and air pollution. Smoking to some people has been a lifestyle and they are not willing to stop therefore increasing more chances of getting this types of cancers.

Cancer prevalence by income

The visualization between cancer and average income shows that there is a low prevalence of cancer in low income with a significant raise with positive correlation with high income. The rate at which cancer is prone to people more income does not relate to their money but the type of lifestyles that they live.

Cancer death by income

Cancer has a positive relationship with high income, death rate as it depends on cancer prevalence, detection, and treatment. People who have more money can afford very easily to go for checkups and if they have cancer they can also afford all treatments required for cancer patients. Unlike on the other side where cancer death rate on income is very high

as it comes with poverty. Poor people cannot afford to go for cancer checkups and treatments as they are very expensive and at the end most of the end up dying.

9. CONCLUSION

Cancer is a transformation of normal cells into the tumor which later spread gradually to different parts of the body in a multistage process. Cancer has become a killer disease all over the world where it has continued to kill many people due to lack of specific treatment for different types of cancers. Cancer and HIV combined together could kill many people if there could be no treatment for either. These two diseases have once been pronounced as a killer disease and a world disaster for taking lot of people's life. The spread of HIV/AIDS reduced after the introduction of ART therapy, invention of condoms and HIV training awareness which has reduced further spread of HIV. The governments have made sure that these medicines are available to all people at an affordable price (or free) paving way for the reduction of the spread of HIV. Cancer remains to be the killer disease all over the globe because its treatment remains expensive and most people cannot afford for instance Chemotherapies which are used to reduce further spreading of those cancer cells.

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ABBREVIATIONS

WHO- World Health Organization

HIV AIDS-human immunodeficiency virus/

INCTR- International Network for Cancer Treatment and Research

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