

Assessment of Knowledge about HIV Disease (AIDS) Among Pregnant Women in Tabuk City

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ABSTRACT

Introduction: Human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/AIDS) is a spectrum of conditions caused by infection with the human immunodeficiency virus (HIV). Following initial infection, a person may not notice any symptoms or may experience a brief period of influenza-like illness. Typically, this is followed by a prolonged period with no symptoms. As the infection progresses, it interferes more with the immune system, increasing the risk of common infections like tuberculosis, as well as other opportunistic infections, and tumors that rarely affect people who have working immune systems. These late symptoms of infection are referred to as AIDS. This stage is often also associated with weight loss.

Materials and Methods: A cross-sectional study was conducted among 200 general population, randomly selected by simple random sampling technique from all population in Tabuk. A web based self-administrated, structured arabic questionnaire was used to test knowledge and attitude of general population about antibiotics using. The collected Data were entered and analyzed using (SPSS) statistical program version 19.

Results: There were 76 % know about the AIDS and 99% from them know its a serious and infections illness, and the majority more than 80 % they did not know causative organism of AIDS infection, but more than 80% known that sexual relations it is the mode of transmission of AIDS and about 60 % they did not know when the patient is being symptomatic after she being

infected. And 95 % they thought there is no an effective treatment against AIDS, all of them think that the pre-marriage investigation can discover the disease, and the majority the source of the information which it adopted in the answer from internet source.

Conclusion: Two types of HIV have been characterized: HIV-1 and HIV-2. HIV-1 is the virus that was originally discovered (and initially referred to also as LAV or HTLV-III). It is more virulent, more infective, and is the cause of the majority of HIV infections globally. The lower infectivity of HIV-2 as compared with HIV-1 implies that fewer people exposed to HIV-2 will be infected per exposure. Because of its relatively poor capacity for transmission, HIV-2 is largely confined to West Africa.

Keywords: Knowledge, HIV, AIDS, Pregnant Women.

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INTRODUCTION

Human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/AIDS) is a spectrum of conditions caused by infection with the human immunodeficiency virus (HIV).¹⁻³ Following initial infection, a person may not notice any symptoms or may experience a brief period of influenza-like illness.⁴ Typically, this is followed by a prolonged period with no symptoms.⁵ As the infection progresses, it interferes more with the immune system, increasing the risk of common infections like tuberculosis, as well as other opportunistic infections, and tumors that rarely affect people who have working immune systems.⁴ These late symptoms of infection are referred to as AIDS. This stage is often also associated with weight loss.⁵

HIV is spread primarily by unprotected sex (including anal and oral sex), contaminated blood transfusions, hypodermic needles, and from mother to child during pregnancy, delivery, or breastfeeding.⁶

Some bodily fluids, such as saliva and tears, do not transmit HIV.⁷ Methods of prevention include safe sex, needle exchange programs, treating those who are infected, and male circumcision.⁴ Disease in a baby can often be prevented by giving both the mother and child antiretroviral medication.⁸ There is no cure or vaccine; however, antiretroviral treatment can slow the course of the disease and may lead to a near-normal life expectancy.^{5,8} Treatment is recommended as soon as the diagnosis is made.⁹ Without treatment, the average survival time after infection is 11 years.¹⁰

In 2015 about 36.7 million people were living with HIV and it resulted in 1.1 million deaths.⁴ Most of those infected live in sub-Saharan Africa.⁴ Between its discovery and 2014 AIDS has caused an estimated 39 million deaths worldwide.¹¹ HIV/AIDS is considered a pandemic—a disease outbreak which is present

over a large area and is actively spreading.¹² HIV is believed to have originated in west-central Africa during the late 19th or early 20th century.¹³ AIDS was first recognized by the United States Centers for Disease Control and Prevention (CDC) in 1981 and its cause—HIV infection—was identified in the early part of the decade.¹⁴ HIV/AIDS has had a great impact on society, both as an illness and as a source of discrimination.¹⁵ The disease also has large economic impacts.¹⁵ There are many misconceptions about HIV/AIDS such as the belief that it can be transmitted by casual non-sexual contact.¹⁶ The disease has become subject to many controversies involving religion including the Catholic Church's decision not to support condom use as prevention.¹⁷ It has attracted international medical and political attention as well as large-scale funding since it was identified in the 1980s.¹⁸ HIV is the cause of the spectrum of disease known as HIV/AIDS. HIV is a retrovirus that primarily infects components of the human immune system such as CD4+ T cells, macrophages and dendritic cells. It directly and indirectly destroys CD4+ T cells.¹⁹ HIV is a member of the genus *Lentivirus*,²⁰ part of the family *Retroviridae*.²¹ Lentiviruses share morphological and biological characteristics. Many species of mammals are infected by lentiviruses, which are characteristically responsible for long-

duration illnesses with a long incubation period.²² Lentiviruses are transmitted as single-stranded, positive-sense, enveloped RNA viruses. Upon entry into the target cell, the viral RNA genome is converted (reverse transcribed) into double-stranded DNA by a virally encoded reverse transcriptase that is transported along with the viral genome in the virus particle. The resulting viral DNA is then imported into the cell nucleus and integrated into the cellular DNA by a virally encoded integrase and host co-factors.²³ Once integrated, the virus may become latent, allowing the virus and its host cell to avoid detection by the immune system.²⁴ Alternatively, the virus may be transcribed, producing new RNA genomes and viral proteins that are packaged and released from the cell as new virus particles that begin the replication cycle anew.²⁵ HIV is now known to spread between CD4+ T cells by two parallel routes: cell-free spread and cell-to-cell spread, i.e. it employs hybrid spreading mechanisms.²⁶ In the cell-free spread, virus particles bud from an infected T cell, enter the blood/extracellular fluid and then infect another T cell following a chance encounter.²⁶ HIV can also disseminate by direct transmission from one cell to another by a process of cell-to-cell spread.^{27,28} The hybrid spreading mechanisms of HIV contribute to the virus's ongoing replication against antiretroviral therapies.^{26,29}

AVERAGE PER ACT RISK OF GETTING HIV BY EXPOSURE ROUTE TO AN INFECTED SOURCE

EXPOSURE ROUTE	CHANCE OF INFECTION
Blood transfusion	90%[32]
Childbirth (to child)	25%[33]
Needle-sharing injection drug use	0.67%[32]
Percutaneous needle stick	0.30%[34]
Receptive anal intercourse*	0.04–3.0%[35]
Insertive anal intercourse*	0.03%[36]
Receptive penile-vaginal intercourse*	0.05–0.30%[35][37]
Insertive penile-vaginal intercourse*	0.01–0.38%[35][37]
Receptive oral intercourse*§	0–0.04%[35]
Insertive oral intercourse*§	0–0.005%[38]

* assuming no condom use; § source refers to oral intercourse performed on a man

Transmission

HIV is transmitted by three main routes: sexual contact, significant exposure to infected body fluids or tissues, and from mother to child during pregnancy, delivery, or breastfeeding (known as vertical transmission).⁶ There is no risk of acquiring HIV if exposed to feces, nasal secretions, saliva, sputum, sweat, tears, urine, or vomit unless these are contaminated with blood.³⁹ It is possible to be co-infected by more than one strain of HIV—a condition known as HIV superinfection.³⁸

Sexual

The most frequent mode of transmission of HIV is through sexual contact with an infected person.⁶ The majority of all transmissions worldwide occur through heterosexual contacts (i.e. sexual contacts between people of the opposite sex);⁶ however, the pattern of transmission varies significantly among countries. As of 2014, most HIV transmission in the United States occurred among men who had sex with men, with this population accounting for 67% of new cases and 83% of new cases among males over 12

years old.³⁹ About 15% of gay and bisexual men have HIV while 28 percent of transgender women test positive.^{39,40} With regard to unprotected heterosexual contacts, estimates of the risk of HIV transmission per sexual act appear to be four to ten times higher in low-income countries than in high-income countries.⁴¹ In low-income countries, the risk of female-to-male transmission is estimated as 0.38% per act, and of male-to-female transmission as 0.30% per act; the equivalent estimates for high-income countries are 0.04% per act for female-to-male transmission, and 0.08% per act for male-to-female transmission.⁴¹ The risk of transmission from anal intercourse is especially high, estimated as 1.4–1.7% per act in both heterosexual and homosexual contacts.^{41,42} While the risk of transmission from oral sex is relatively low, it is still present.⁴³ The risk from receiving oral sex has been described as "nearly nil";⁴⁴ however, a few cases have been reported.⁴⁵ The per-act risk is estimated at 0–0.04% for receptive oral intercourse.⁴⁶ In settings involving prostitution in low income countries, risk of female-to-

male transmission has been estimated as 2.4% per act and male-to-female transmission as 0.05% per act.⁴¹

Risk of transmission increases in the presence of many sexually transmitted infections⁴⁷ and genital ulcers.⁴¹ Genital ulcers appear to increase the risk approximately fivefold.⁴¹ Other sexually transmitted infections, such as gonorrhea, chlamydia, trichomoniasis, and bacterial vaginosis, are associated with somewhat smaller increases in risk of transmission.⁴⁶

The viral load of an infected person is an important risk factor in both sexual and mother-to-child transmission.⁴⁸ During the first 2.5 months of an HIV infection a person's infectiousness is twelve times higher due to this high viral load.⁴⁶ If the person is in the late stages of infection, rates of transmission are approximately eightfold greater.⁴¹

Commercial sex workers (including those in pornography) have an increased rate of HIV.^{49,50} Rough sex can be a factor associated with an increased risk of transmission.⁵¹ Sexual assault is also believed to carry an increased risk of HIV transmission as condoms are rarely worn, physical trauma to the vagina or rectum is likely, and there may be a greater risk of concurrent sexually transmitted infections.⁵²

Body Fluids

The second most frequent mode of HIV transmission is via blood and blood products.⁵ Blood-borne transmission can be through needle-sharing during intravenous drug use, needle stick injury, transfusion of contaminated blood or blood product, or medical injections with unsterilized equipment. The risk from sharing a needle during drug injection is between 0.63 and 2.4% per act, with an average of 0.8%.⁵¹ The risk of acquiring HIV from a needle stick from an HIV-infected person is estimated as 0.3% (about 1 in 333) per act and the risk following mucous membrane exposure to infected blood as 0.09% (about 1 in 1000) per act.³⁷ In the United States intravenous drug users made up 12% of all new cases of HIV in 2009,⁵² and in some areas more than 80% of people who inject drugs are HIV positive.⁵

HIV is transmitted in about 93% of blood transfusions using infected blood.⁵³ In developed countries the risk of acquiring HIV from a blood transfusion is extremely low (less than one in half a million) where improved donor selection and HIV screening is performed;⁶ for example, in the UK the risk is reported at one in five million⁵⁵ and in the United States it was one in 1.5 million in 2008.⁵⁶ In low income countries, only half of transfusions may be appropriately screened (as of 2008),⁵⁷ and it is estimated that up to 15% of HIV infections in these areas come from transfusion of infected blood and blood products, representing between 5% and 10% of global infections.^{6,58} Although rare because of screening, it is possible to acquire HIV from organ and tissue transplantation.⁵⁹ Unsafe medical injections play a significant role in HIV spread in sub-Saharan Africa. In 2007, between 12 and 17% of infections in this region were attributed to medical syringe use.⁶⁰ The World Health Organization estimates the risk of transmission as a result of a medical injection in Africa at 1.2%.⁶⁰ Significant risks are also associated with invasive procedures, assisted delivery, and dental care in this area of the world.⁶⁰

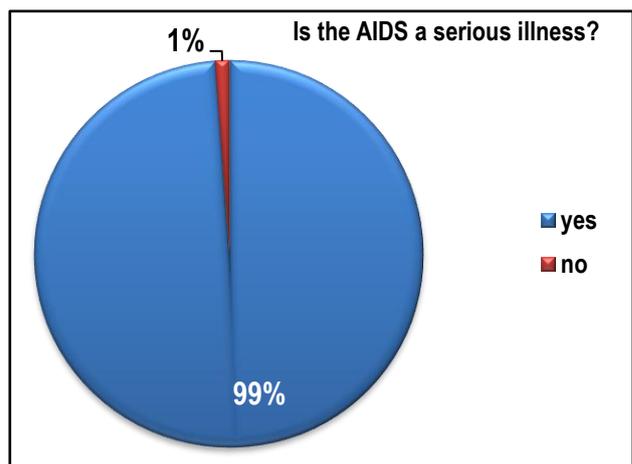
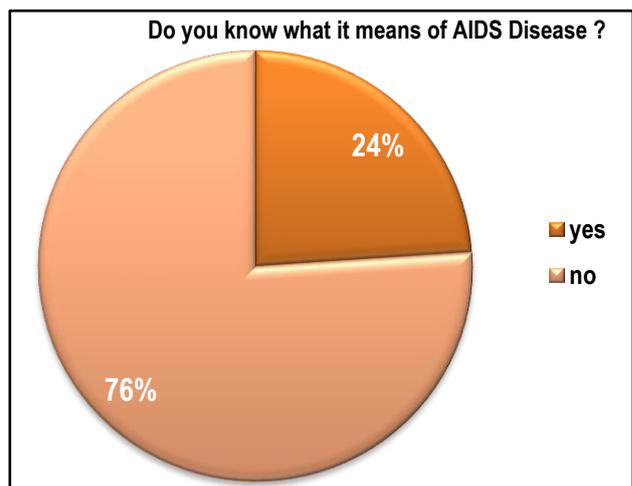
People giving or receiving tattoos, piercings, and scarification are theoretically at risk of infection but no confirmed cases have been documented.⁶¹ It is not possible for mosquitoes or other insects to transmit HIV.⁶²

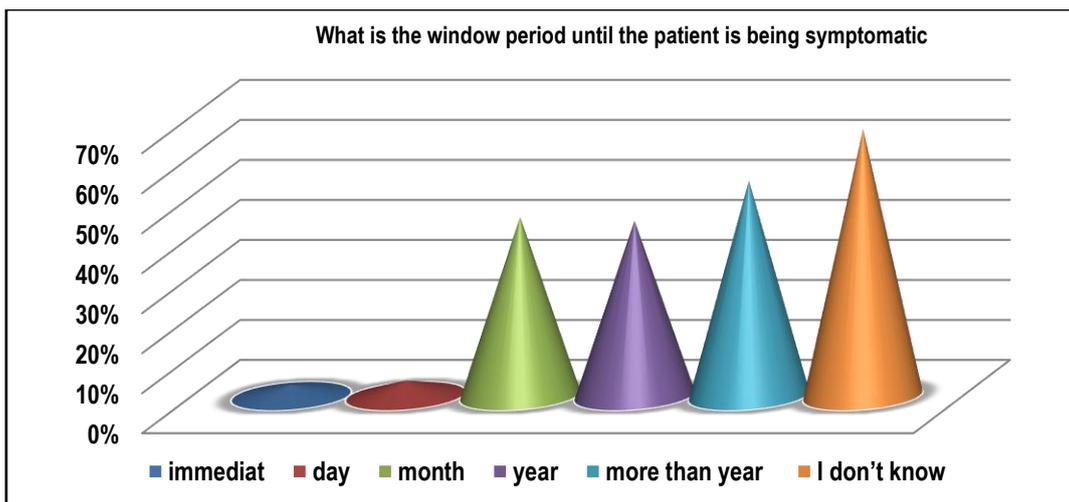
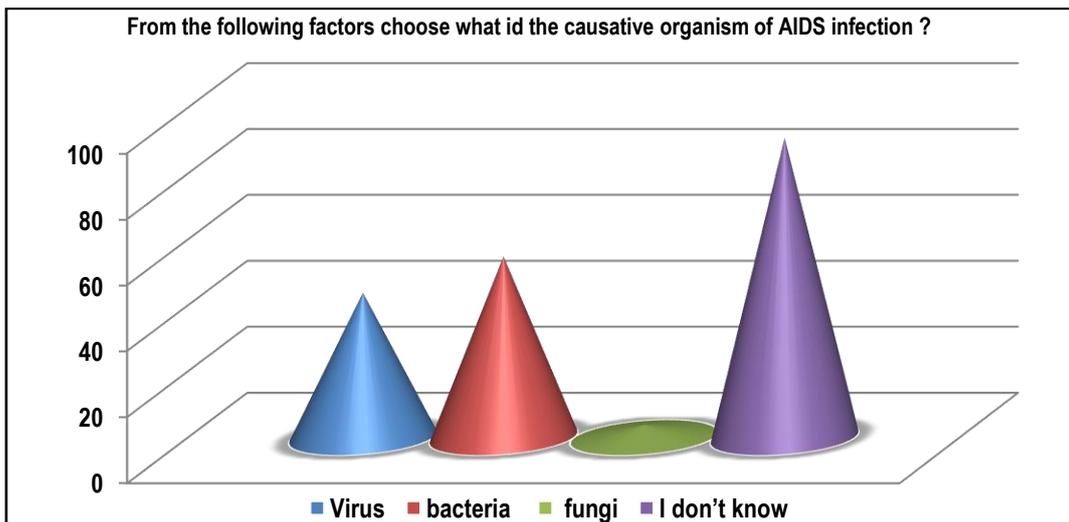
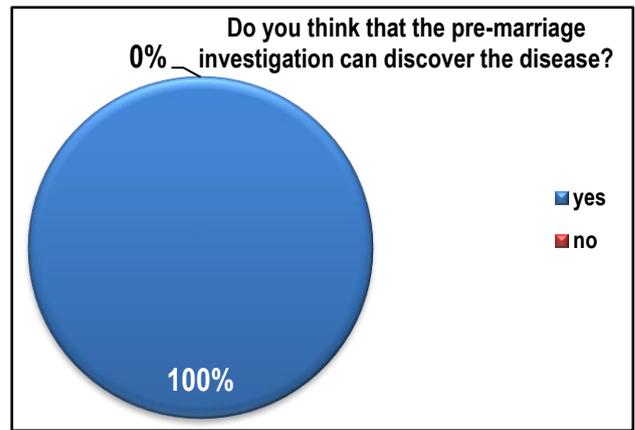
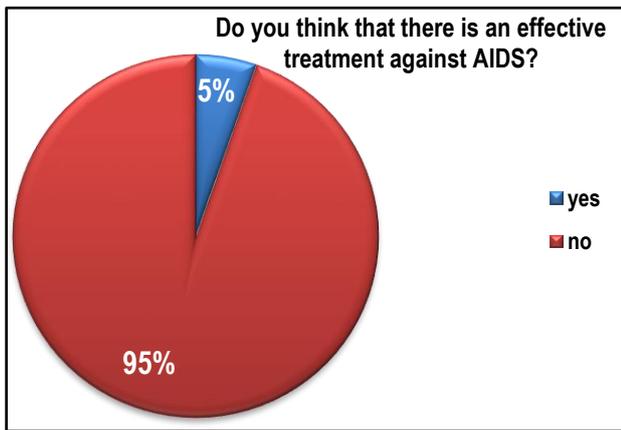
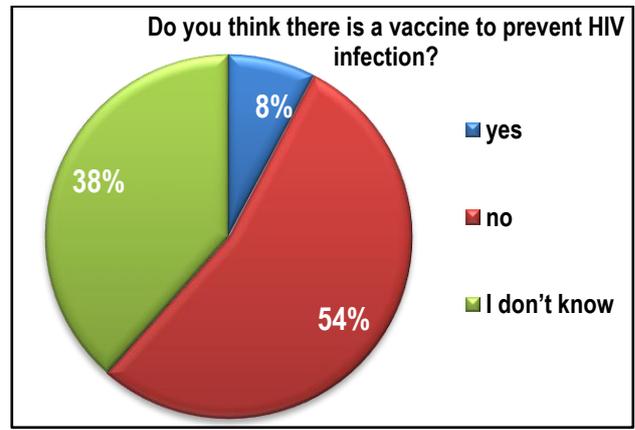
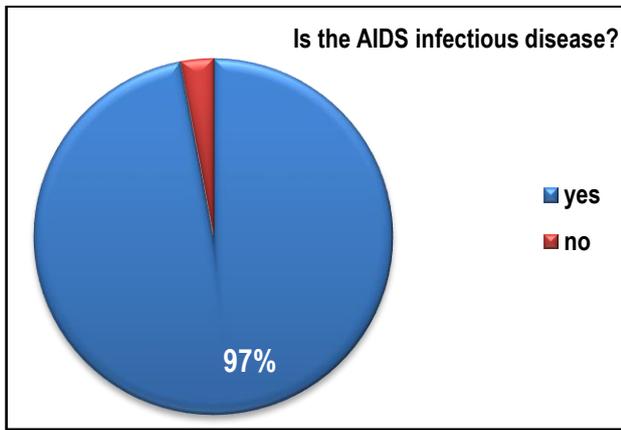
Mother-to-Child

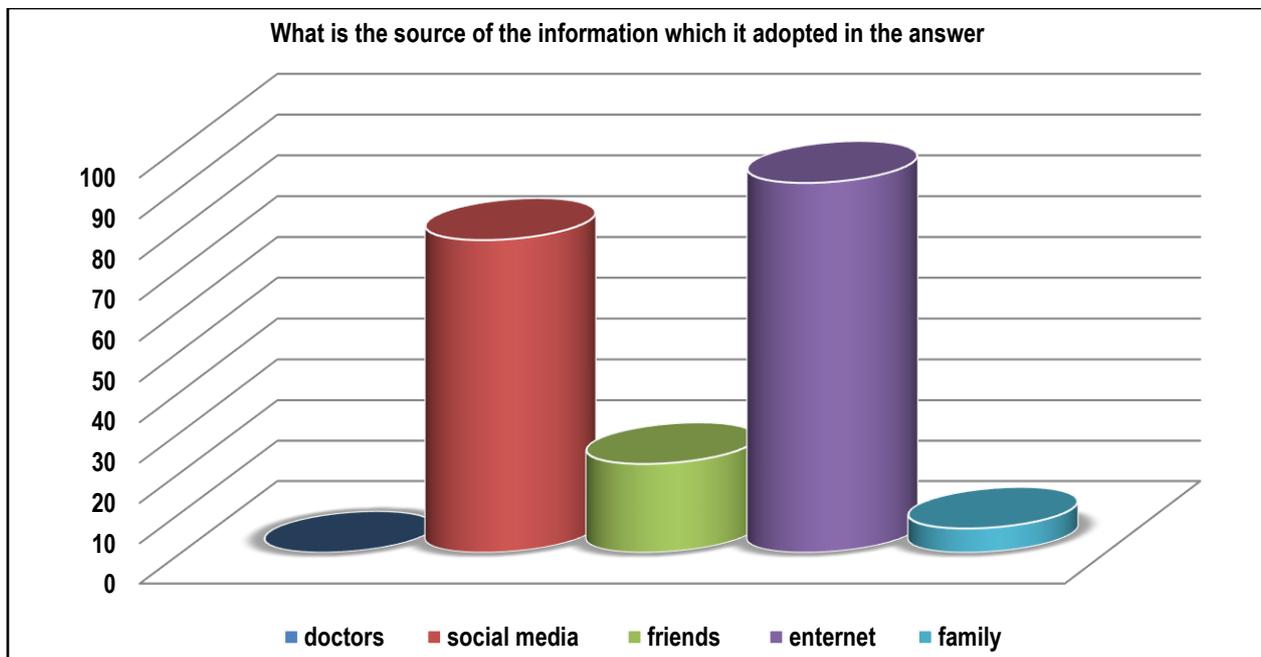
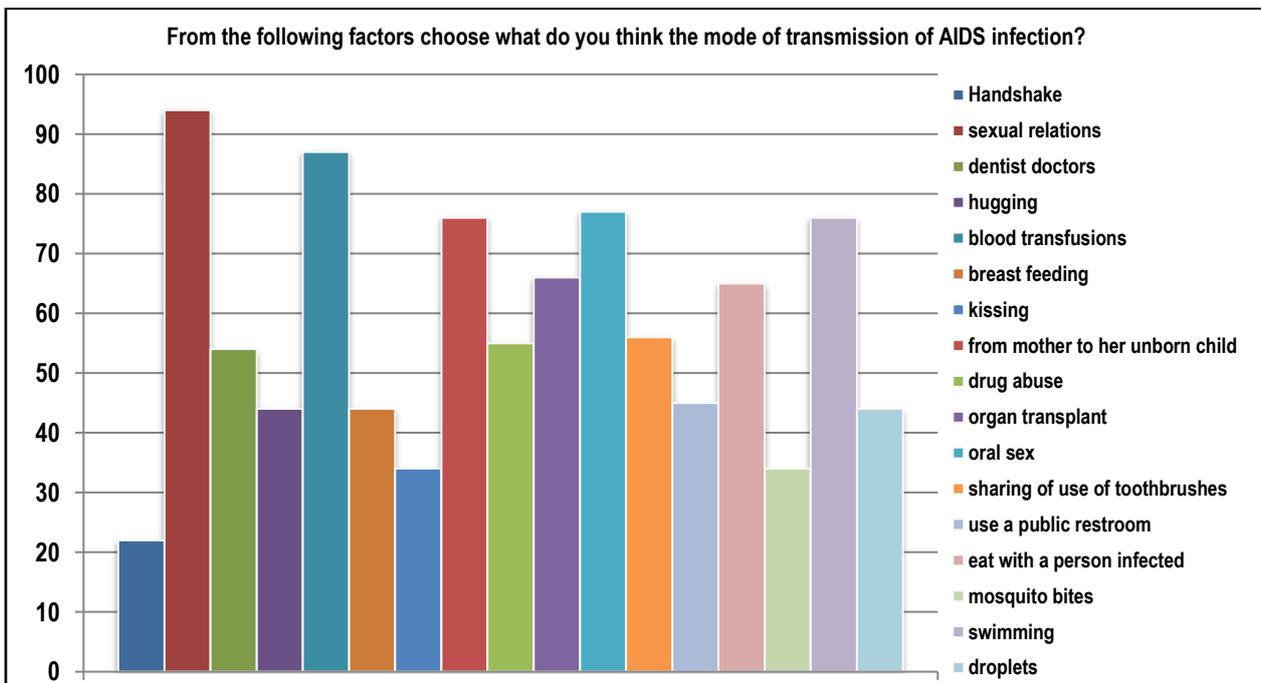
HIV can be transmitted from mother to child during pregnancy, during delivery, or through breast milk resulting in infection in the baby.^{63,64} This is the third most common way in which HIV is transmitted globally.⁵ In the absence of treatment, the risk of transmission before or during birth is around 20% and in those who also breastfeed 35%.⁶³ As of 2008, vertical transmission accounted for about 90% of cases of HIV in children.⁶³ With appropriate treatment the risk of mother-to-child infection can be reduced to about 1%.⁶³ Preventive treatment involves the mother taking antiretrovirals during pregnancy and delivery, an elective caesarean section, avoiding breastfeeding, and administering antiretroviral drugs to the newborn.⁶⁵ Antiretrovirals when taken by either the mother or the infant decrease the risk of transmission in those who do breastfeed.⁶⁶ Many of these measures are however not available in the developing world.⁶⁵ If blood contaminates food during pre-chewing it may pose a risk of transmission.⁶¹

MATERIALS AND METHODS

A cross-sectional study was conducted among 1500 pregnant women in Tabuk city, randomly selected by simple random sampling technique from all population in Tabuk. A web based self-administrated, structured arabic questionnaire was used to test knowledge about HIV Disease (AIDS) among pregnant women in Tabuk city 1 -12-2017 to 1-1-2018. The collected Data were entered and analyzed using (SPSS) statistical program version 19.







RESULTS

76 % know about the AIDS and 99% from them know its a serious and infections illness, and the majority more than 80 % they did not know causative organism of AIDS infection, but more than 80% known that sexual relations it is the mode of transmission of AIDS. About 60 % of them did not know when the patient is being symptomatic after she being infected and 95 % they thought there is no an effective treatment against AIDS, all of them think that the pre-marriage investigation can discover the disease, and the majority the source of the information which it adopted in the answer from internet source.

CONCLUSION

Two types of HIV have been characterized: HIV-1 and HIV-2. HIV-1 is the virus that was originally discovered (and initially referred to also as LAV or HTLV-III). It is more virulent, more infective³⁰ and is the cause of the majority of HIV infections globally. The lower

infectivity of HIV-2 as compared with HIV-1 implies that fewer people exposed to HIV-2 will be infected per exposure. Because of its relatively poor capacity for transmission, HIV-2 is largely confined to West Africa.³¹

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