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Reducing HIV Infection Rate in Women: A Catalyst to reducing HIV Infection pervasiveness in Africa

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Abstract

The human immunodeficiency virus (HIV) infection is one of the health burdens ravaging the world with severe impact in developing regions. Women and young girls are more threatened by HIV infection than their male counterparts. Notably, in 2022, 63% of all new HIV infections were attributed to women in sub-Saharan Africa. The anatomical architecture of the female genital tracts, poverty, gender imbalance, unrefined cultural norms aimed at subjugating women, early exposure to sex and marriage, and illiteracy are fingered to contribute to the increased risk of HIV infection in women and young girls. Mitigating these factors will no doubt help curb the prevalence of HIV infection. Herein, we highlighted some measures that could help turn down women's risk of getting HIV including abstinence, regular use of condoms, delay in sexual exposure, maintaining one faithful partner, timely voluntary counseling and testing, formal education, monitoring of alcohol use, proper dieting, and scrapping of cultural norms targeted at subjugating women. Successfully turning down HIV infection risk in women and young girls will be a breakthrough in the combat against HIV infection since women and young girls being the most vulnerable group must have been salvaged. This paper reviewed the prevalence of HIV/AIDS in women and young girls, the factors fueling the high prevalence, and enumerated key areas to target in order to minimize this menace. Related published data from various databases were utilized.

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Introduction:-

The human immunodeficiency virus (HIV) is a retrovirus that was introduced to humans from monkeys. Poorly managed HIV infection can progress to a dreadful extremity known as acquired immunodeficiency syndrome (AIDS). AIDS is portrayed by a remarkable decline in CD4+T cells. CD4+ T cells are likened to endogenous soldiers charged with the responsibility of defense against invaders. Thus, individuals with very low CD4+ counts are vulnerable to several infections due to a weakened immune system as seen in HIV/AIDS patients. Coitus with an HIV-infected individual and mother-to-child are the topmost transmission route. Other routes of transmission are unsafe blood transfusion, sharing of sharp objects like needles and syringes with an infected person [1, 2]. Living with HIV/AIDS increases the risk of developing other diseases and worsening already existing ones. Thus, HIV/AIDS reduces life expectancy with cardiovascular diseases pinpointed as the commonest cause of HIV/AIDS-related death [3]. Globally in 2022, 39 million people were living with HIV (PLWH), with women and girls accounting for 53% of the total figure. 1.3 million newly HIV-infected people, 46% were women and girls. In 2022, 63% of all new HIV infections were attributed to women in sub-Saharan Africa(SSA). About 4000 women and girls between 15-24 years were infected with HIV every week in 2022 across the globe. Regrettably, about 3100 of these infections were recorded in SSA. The fight against HIV has a huge financial burden. About 21 billion US dollars was bestowed for HIV/AIDS management in low-and middle-income countries. It is estimated that about 29 billion US dollars shall be required in 2025 to hunt HIV/AIDS [4].The prevalence of HIV infection in women is unevenly distributed. Female sex workers are more prone to HIV infection compared to non-sex workers [5]. More so, women that use injectable medications have a greater risk of getting HIV when compared to males that use injectable medications [6].Sexual cruelty against women and girls promotes their likelihood of being infected with HIV [7]. Early marriage (marriage before eighteen years) also predisposes women to a higher chance of getting infected with HIV. This may be due to their limited information about HIV especially precautionary steps [8].

Factors fueling HIV infection risk in Women

The biological architecture of women: women have a higher chance of HIV infection due to their biological architecture. The vulnerability of women to HIV infection is in part a result of the large mucosal surface area of the reproductive tract which during coitus is exposed to HIV and other pathogens [9]. Sexually transmitted infections (STIs) also increase the likelihood of acquiring HIV infection [10]. Again, due to the female reproductive tract architecture, STIs are not usually detected early in women and hence stay longer in them culminating in strenuous treatment with poor outcomes [9]. Further, HIV concentration in the semen is high and the female reproductive system has a longer contact time with semen and thus exacerbates the risk of infection [11].Estrogen and progesterone, the two commonest female hormones, aid women's susceptibility to HIV infection. This could possibly explain the reason for the heightened HIV infection risk during pregnancy. Pregnancy is accompanied

byestrogen and progesterone upsurge which increase the vulnerability of the cervical mucosal walls and also creates a favorable environment for HIV to thrive [12].

Cultural idiosyncrasies: Africa is still bedeviled by cultural practices which are not women-friendly. The patriarchal culture is more prevalent in Africa and this lays a huge burden on the socioeconomic development of the region. Women in some parts of Africa are not involved in sexual decisions like the use of condoms, family planning, or family finances. Women are most times perceived as acquired properties having paid a certain amount labeled bride price to their families before marriage. Thus, these women are pinned to their patriarchal husbands who go about marrying more wives and having other extra-marital affairs thereby heightening the HIV and other diseases risk of the wives. Sadly, polygamy is applauded and infidelity from male partners is customary in some of these misguided cultures [13]. In light of these, women bear the brunt of escalated risk of HIV infection, STIs, and other diseases.

Early marriage and sex: Adolescent marriage especially to older married men is no doubt one of the obnoxious practices in some parts of the world. Early marriage limits women's education level and thus minimal knowledge about healthy living including HIV prevention measures. Regrettably, young wives must consent to sex from their polygamous husbands as spousal rape is not abhorred [14]. Wand and Ranjee in their study in South Africa reported that women exposed to coitus at age fifteen years of age or earlier had a higher chance to contact HIV infection than their counterparts who had their first coitus at later age (21 and above) [15].

Highpoverty rate among women: poverty is a factor fueling HIV infection. Recall that HIV infection is more prevalent in poverty-stricken areas. Poverty encourages early exposure to sex, multiple sexual relationships, and sex in exchange for money [16]. Further, poor parents are unable to give their children and wards proper formal education and this makes these children resort to early marriage and other improper sexual behaviors due to lack of formal education. According to UNAIDS reports, female sex workers are 14 times more likely to have HIV infection than non-sex workers [17]. Poverty also makes women indulge in highly risky sexual activities such as unprotected sex with strangers, oral and anal sex in order to make more money [18].

HIGHLIGHTS OF EXPECTED CHANGES

Attitudinal changes can slow the rapid spread of HIV infection in women. Abstinence, regular use of condoms, delay in sexual exposure, maintaining one faithful partner, and timely voluntary counseling and testing are some attitudinal changes that can decline HIV infection. Studies that corroborate this fact are well documented. Boileau and Pettifor in their studies in Malawi and Zimbabwe, respectively, reported that early sexual exposure increases the incidence of HIV infection [19, 20]. Being faithful to one non-infected partner has also been fingered as a contributor to the decline in HIV infection rate in some African countries. Having multiple sexual partners is escalating the risk of contacting HIV [21].

Strict regulation of alcohol use can help curb the spread of HIV. Alcohol abuse especially among youths hampers sexual behaviors leading to increased STIs and HIV infection [12]. Alcohol intoxication contributes to inconsistent use of condoms, non-adherence to antiretroviral drugs, and infidelity.

Repressing gender inequality and gender-based violence against women should be upheld. Women married to abusive husbands are more prone to HIV infection as they lack the ability to say no to sexual advances or question

their spouse's infidelity. HIV infection rates in South Africa and Uganda were 12% and 55%, respectively, higher in women married to abusive husbands [7, 23].

Stigmatizing HIV-positive individuals is one of the key contributors to non-disclosure of HIV-positive status [17]. It is pertinent to note that stigmatization is weightier in women than in men. HIV-positive women are perceived as being irresponsible and thus heavily criticized and stigmatized compared to their male HIV-infected counterparts [17]. Thus, women resort to non-testing, non-disclosure, and non-adherence to antiretroviral use. This heightens the risk of HIV infection and progression to AIDS. Therefore, the campaign against discrimination against people living with HIV/AIDS should be amplified. Interestingly, this campaign has been massive even in rural communities through the use of highly respected individuals like religious leaders [2].

HIV/AIDS prevalence is high in war-torn areas. Crisis breeds poverty, displacement, and unrest. This increases the likelihood of spousal separation which promotes promiscuity, sex for money due to poverty, and poor medical facilities. Thus, peaceful co-existence among neighboring communities and countries is advocated.

Regular condom use has been an effective HIV preventive apparatus and thus its regular use should be promoted. Due to the architectural integrity of the female reproductive tract, providing barriers like condoms reduce HIV exposure to the vulnerable female genital tract, thus reducing the risk of infection.

Reinforcing voluntary counseling, and testing among women will help in timely detection, adequate information on HIV, and adherence to HIV medications. Impressively, most antenatal clinics have incorporated counseling and testing of pregnant women during routine antenatal checks. This act is more productive in the prevention of mother to child transmission [3].

Proper nurturing of young girls especially using a conventional schooling system will empower them with adequate knowledge of healthy living especially disease preventive measures including HIV. Furthermore, young girls who are educated have more self-confidence, are less financially dependent, and are less likely to be subjugated by men in the future [22]. An empowered young woman can work and earn money just like her male counterpart. This reduces the overdependence on men for welfare even basic needs like food. Poor dietary intake especially by HIV-infected individuals quickens the emergence of depressive disorders with its accompanying array of health challenges culminating in reduced survivability [24]. According to Palar et al. [25] in their study using women living with HIV in the United States, food insecurity, stigma, and depressive disorders are affiliated with poor HIV outcomes and speedy progression to AIDS. Taken together, adequate nutrient intake can curb depression, self-stigma, and improve HIV treatment outcomes. Some edible fruits and vegetables are impressively packed with nutrients. These fruits and vegetables are cheaper and readily available sources of nutrients. Amazingly, scientific evidence abounds supporting the commendable nutrient composition of fruits and vegetables. Some of these fruits and vegetables include *Datura stramonium* leaf [26], *Pterocarpus santalinoides* [27], *Annona muricata* [28], *Moringa oleifera* and *Cajanus cajan* [29], pawpaw and orange [30]. The role of nutrients in the maintenance of good health cannot be overstated.

Encouraging male medical circumcision can help reduce HIV infection in women. Documented reports of male medical circumcision's inhibitory effect on the spread of HIV exist [31]. Reducing HIV infection risk in men

through medical circumcision will inevitably reduce HIV risk in women since sexual relationship is the predominant means of transmitting HIV.

CONCLUSION

Women have a higher risk of acquiring HIV/AIDS than their male counterparts. Thus, reducing the risk of women is tantamount to reducing HIV/AIDS rampancy. Some of the factors perpetuating this increased risk are anatomical attributes of the female reproductive tract, subjugation by the male gender through the use of unrefined cultural norms, poverty, early marriage, and illiteracy. Abating these factors will contribute significantly to reducing the prevalence of HIV/AIDS especially in developing countries where these factors and HIV/AIDS are pervasive. We have highlighted some focal points like abstinence, regular use of condoms, delay in sexual exposure, maintaining one faithful partner, timely voluntary counseling and testing, formal education, monitoring of alcohol use, proper dieting, and scrapping of cultural norms targeted at subjugating women. Efforts championing these focal points should be intensified so as to reduce the risk of HIV/AIDS in women. Accordingly, HIV/AIDS will decline since the most vulnerable group (women) has been salvaged.

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