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Review article

A study on structured teaching program (STP) to reduce HIV/AIDS: A review of effectiveness

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Abstract

Background: The HIV/AIDS disease is one of the world's dangerous public health and social problem. In the past decades has experienced a rapid increase in HIV/AIDS cases. The major factor have been identified as significant contributors to the HIV/AIDS epidemic among the general population is the drug abuse intravenous drug use and needle sharing, floating population migration, unprotected and high-risk sexual activity, lack of knowledge about HIV-AIDS. **Aim:** This review was intiated in recognition of the considering public health and social problems associated with adolescent sexual behavior and the importance of basic school-affiliated programs designed to reduce sexual risk-taking behavior on sound research. **Methods:** Searches were conducted in Pubmed, Medline, and other databases according to agreed a priori criteria for studies published between 1992 and 2016. Further searches were conducted in UNAIDS and WHO (World Health Organization) websites, and 'Google' related journals were hand-searched and references cited in identified articles were followed up. **Results:** Some possible titles and abstracts were found, 22 full text articles were critically appraised, and 12 articles reviewed, reflecting the paucity of published studies conducted relative to the magnitude of the HIV.

Keywords: Risk factors, Incidence, prevalence, Prevention of HIV –AIDS

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1. Introduction

Human immune efficiency virus infection and acquired immune deficiency syndrome [HIV/AIDS] with a spectrum of condition caused by infection with the human immunodeficiency virus [HIV] [1].

It may also be referred to as HIV disease or HIV infection. HIV is transmitted primarily via unprotected sexual intercourse. [Including anal and oral sex] contaminated blood transfusion, hypodermic needles and from mother to child during pregnancy, delivery or breastfeeding [1].

There is no cure or vaccine however antiretroviral treatment can slow the course of the disease and may lead to near normal life expectancy. While antiretroviral treatment reduces the risk of death and complication from the disease. Treatment is recommended as soon as the diagnosis is made .without treatment the average survival time after infection with HIV is estimated to be 9 to 11 years depending on the HIV subtype [1].

India is one of the largest and most populated country in the world, with over one billion inhabitants of this number, it's estimated that around 2.5 million people are currently living with HIV [2]. Since its discovery, AIDS has caused an estimated 36 million death worldwide. In 2014 it result in about 1.2 million death and about 36.9 million people were living with HIV [3].

HIV emerged later in India than it did in many other countries. But this has not limited it impact. Infection rates soared through the 1990s, and have increased further in recent years. The crisis continues to deepen as it become clearer that the epidemic is affecting all sector of Indian society [4].

Though India is country with low HIV prevalence, it has the third largest number of people living with HIV/AIDS. As per HIV estimate 2008-09 there are an estimated 23.9 lakh people living with HIV/AIDS [5].
HIV/AIDS has had a great impact on society both as an illness and as a source of discrimination. The disease

also has significant economic impact. There are many misconceptions about HIV/AIDS such as the belief that it can be transmitted by casual non sexual contact. The disease has become subject to many controversies involving religion [6].

"AIDS" is the acronym of "Acquired Immune-Deficiency Syndrome" which is a fatal disease described variously as modern plague, modern scourge, devastating disease, insidious microbiological bomb, and biological disaster and so-on. It is a world health problem of extraordinary scale and extreme urgency. AIDS emerged as one of the most important public health issues of the late twentieth and early twenty-first centuries and is now one of the leading causes of global morbidity and mortality [7].

Adolescents and youth need information in order to make such responsible choices in terms of sexual behavior/relationship. They also need to integrate and personalize this information or knowledge so that they can make healthy choices. Young people learn a great deal from each other and by sharing ideas and experiences amongst themselves. Peer influence is a great motivating factor in the adoption of specific behavior format. Therefore, correct information and values imparted to one group of young people will be passed on to the other young people [7]. The HIV/AIDS epidemic is one of the world's serious public health and social problem. In the past decades has experienced a rapid increase in HIV/AIDS cases. Four major factors have been identified as significant contributors to the HIV/AIDS epidemic among the general population. The First is drug abuse intravenous drug use and needle sharing, floating population migration, unprotected and high risk sexual activity, lack of knowledge about HIV-AIDS [8].

Need for the study

AIDS was first clinically identified in 1981 in the United States. The initial cases were reported in drug users and homosexual men with no known cause of impaired immunity who showed symptoms of Pneumocystis carinii pneumonia (PCP) [9].

In 1983, two separate research groups led by Robert Gallo and Luc Montagnier independently declared that a novel retrovirus are infecting people with AIDS, and published their results in the same issue of the journal Science. Gallo claimed that a virus was isolated by his group from a person with AIDS was exactly similar in shape to other human T-lymphotropic viruses (HTLVs), and his group had been the first to isolate. Gallo's group named their newly isolated virus HTLV-III. At the same time, Montagnier's group identified and isolated a virus from a person suffering with swelling of the lymph nodes in the neck and physical weakness, two characteristic symptoms of AIDS. Comparing the report from Gallo's group, Montagnier and his colleagues identified that core proteins of this virus were immunologically different from those of HTLV-I. Montagnier's group called their isolated virus lymphadenopathy-associated virus (LAV). As these two viruses turned out to be the same, in 1986, LAV and HTLV-III were renamed HIV [10].
In 2008 in the United States approximately 1.2 million people were suffered with HIV, resulting in about 17,500 deaths. The US Centers for Disease Control and Prevention estimated that in 2008 20% of Americans infected with HIV were unaware of their disease. As of 2009, in the United Kingdom, there were approximately 86,500 cases which resulted in 516 deaths [11].

HIV/AIDS is a global pandemic. Till 2012, approximately 35.3 million people have HIV worldwide with the number of new infections that year being about 2.3 million. This is down from 3.1 million new infections in 2001. From these, approximately 16.8 million are women and 3.4 million are less than 15 years old. It resulted in about 1.34 million deaths in 2013, down from a peak of 2.2 million in 2001 [12].
HIV/AIDS is mainly affecting the young adults in the age group of 15–24 years thus retarding the economic growth of the country. Adolescents aged 10-19 years of age accounting for nearly 23% of the population of India are exposed to the risk of being victims of HIV/AIDS. [13].

This is the age where they get interested in sexual relationships. Immature reproductive tracts make them more susceptible to HIV/AIDS. Discussing sex has also been a taboo among them. With the influence of media and the breakdown of traditional family structures, and in the absence of organized institutions for imparting sex education, they tend to learn about sexual and reproductive health from unreliable sources resulting in perpetuation of myths regarding safe sex and reproductive health [14].

Incidence and prevalence of HIV- AIDS

Robert Henry Supaim, conducted on study knowledge and awareness of HIV/ AIDS among high school .He used cross sectional link emailed to the result shows prevalence is low 1.5% to 1.8% in Ghana [15].

In 1995 the estimated number of HIV- positive people in south Africa had income radically and was in the region of 700 people were being infected daily .The global HIV-AIDS pandemic has an impact of individual families school and communities on an unheard of scale although the HIV and AIDS pandemic is viewed as a global phenomenon the prevalence therefore and the manner in which it manifest in different countries is quite diverse [16].

The joint United Nations programme on HIV/AIDS states that 90-95% of people infected Thus 57 of adult are infected are women and 75% young people. The estimated that about 42 million people are living with HIV 6 million people are HIV infected in a year 500,000 children die annually from AIDS related illnesses and about 16,000 pepole are HIV infected each day [17].

Jamilla T. Shepperson, Assessing the knowledge of HIV/AIDS among African American College student .In 2002 the north Caroline epidemiological profile for HIV/AIDS use the screening tracing active transmission HIV testing programme which identify to male to were HIV positive [18].

Anita Ihuwan study conducted on knowledge and attitudes of college student concerning HIV/AIDS .youth in the united states age 13 to 14 accounts for a significant amount of new HIV infection .in 2010 an estimated 26% of all new HIV infection occurred in the nation's youth of an estimated 10,456 HIV diagnoses occurred in people between the age of 20and 24 .the preventative measures participation in risky behaviour and low testing rate [19].

National AIDS prevention control policy says that the least estimated for the HIV/AIDS infected adult population in the country is 3.8 million in 2000. The overall prevalence in the country is still, however very lows a rate much lower than many other countries in the Asia region [20].

Risk factors of HIV –AIDS

Mathew C, Eggers et al 2016 study conducted on effect of prepare a multi-component, school based HIV and intimated partner violence (IPV), preventions programme on adolescent sexual risk. Behaviour young South African, especially women are at high risk of HIV. We evaluated the effect of prepare a multiple component school based HIV prevention participation completed questionnaires at baseline. Regression was undertaken to provide or coefficient adjust for clustering participation in the intervention arm were less likely to report IPV victimization [21].

Qiaoz, Chen L et al 2016 conducted on prevalence and factor associated with occupational burnout among HIV/AIDS health care worker in china; a cross sectional study. A total of 512 questionnaires distributed; 501 questionnaires were completed and collected (rate was 97.9%). After eliminating nine invalid questionnaires (1.80%) 264 physicians and nurses caring for other infection diseases provided valid responses (98.2%) [22].

Karkip Shrestha R 2016 study conducted on the impact of methadone maintenance treatment on HIV risk behaviors among high risk drug injection users. Drug injection users are at high risk of acquiring HIV infection through preventable drug and sex related HIV risk behaviour [23].

Kenyon CR, Tsoumanis 2106 conducted study on partner concurrency and HIV infection risk in South Africa .the relationship between HIV prevalence and partner concurrency varied by race, HIV prevalence and partner concurrency rate were too to allow further statistical testing. In bivariate analysis black African women who reported partner concurrency had a higher prevalence of HIV (36%) ,(95%) confidences integral the result suggest that partner concurrency may increases the HIV infection risk for black South African women and in particular ,for younger women [24].

Knowledge and awareness of HIV-AIDS

Rajvir Bhalwar, bring J Jayaram et al 2003 conducted study on AIDS awareness and attitudes among the college going teenager from rural background conducted cross sectional analytical study the indicated that general awareness about AIDS was very high with more, than 96% of the respondent having hared of AIDS and also identifying it as an important health. Problem in our country [25].

Shivani Rao et al conducted cross sectional study of HIV/AIDS awareness among the college student and influences of life style. This was cross-sectional study done on 400 randomly selected underground student knowledge of awareness regarding the diseases to be viral etiology, mode of transmission preventions and treatment was known to 86.3%, 83.8% and 40.5% respectively [26]. (Table 1) Overall level of awareness regarding various aspects of HIV was satisfactory except knowledge regarding treatment

Table – 1: Awareness about various aspects of HIV/AIDS among the college students.

Aspects of HIV	Number Aware	Percentage	95% Confidence
Cause	345	86.3	82.67-89.93
Mode of transmission	393	98.3	97.02-99.58
Treatment	162	40.5	32.94-48.06
Prevention	311	83.8	79.70-87.90

Syed Esam Mahmood conducted a study on Adolescence awareness: a better tool to combat HIV/AIDS 2011 out of 341 respondent studied 232 (68. %) respondent were male and 109(32.0%) were

above 18 years of age the mean age of was 15.9+ 1.5 year. The entire student had heard about HIV/AIDS. 203 (59.5%) from television student while 160(46.9%) mentioned radio as main sources of information [27].
A National Aids prevention and control policy say that awareness levels which were almost insignificant at the beginning of the epidemic have substantially increased in urban area even thought the level of awareness in rural area continues to remain low .government of India in 2000-01genaral population in various states clearly indicated that the overall awareness about HIV/AIDS among people in reproductive age group (15-49) was 76.1% males 82.4% and female 70%. In the urban area 89.4% respondents had heard of HIV/AIDS as against 77.3% in rural area [28].

Prevention of HIV –AIDS.

Kumar v patil 2015 conducted study on knowledge and attitude toward human immunodeficiency virus/ acquired immunodeficiency syndrome among dental and medical and dental undergraduate student knew about HIV transmissions in hospital. The majority of respondent discussed. HIV related issues with their classmate surprisingly 38% medical and 52% dental undergraduates think that HIV patient should be quarantined to prevent the spread of infection. The knowledge of medical and dental student is adequate but the attitudes need improvements. Dental and medical student constitute a useful public health education resource. Comprehensives training, continuing education and motivation will improve their continuing education and motivation will improve their knowledge and attitudes, which enable them to provide better care to HIV patient [29].

Knowledge on prevention was poor as only 40.4% of the respondents knew how to avoid contacting HIV/AIDS. While 9.1% of the students showed ever having sex (with 67.4% of them using condom before sex), only 2.4% engaged in commercial sex. Some of the males (4.2%) are homosexuals [30].

Discussion

Analysis of these studies suggest four overall factors that may impact effectiveness including the extent to which structural programs focus on specific skills for reducing sexual risk behaviors; program duration and intensity. This review shows the great need for interventions targeted at reducing STI/HIV/AIDS, targeting students. From the 30 articles, we concluded that it is relatively easy to effect changes in knowledge and attitudes regarding STI/HIV/AIDS that have been carefully designed to suit the student environment. It is more challenging to effect changes in positive intentions with regards to sexual risk reduction, and most important changes regarding sexual risk behaviours. Measured changes in behavioural pattern either did not reach statistically significant levels, or when they did in the immediate post-intervention period, wore off within weeks to months. Some behaviour changes however resulted to exhibit a delay effect in development. Behavioural change in relation to abstinence was easier to effect among baseline virgins, while condom use appeared to be the more practicable sexual risk protective behaviour for adolescents who are already sexually active.

The magnitude of the HIV epidemic and current evidence of relative lack of sexual health interventions targeting students for more research and scrupulous use of available resources to inform the design and delivery of well-tailored interventions to meet the unique needs of this population group. Future studies employing a more systematic approach, conducted after an established contextual framework for the intervention is determined [31] are urgently needed to help halt and possibly reverse the course of the AIDS pandemic.

Conclusion

Some of the factors such as social, economic, political, and environment directly affect HIV risk and vulnerability has started an interest in structural approaches to HIV prevention. Progress in the use of structural approaches has been limited for several reasons: absence of a clear explanations; lack of guidance; and limited data on the effectiveness of structural programs to the reduction of HIV incidence.
Based on the findings from this review, specific HIV prevention interventions can be made with following three steps. These include 1) conducting trials of structural interventions, with the aim of altering the structural context of HIV risk; 2) developing new approaches for schools and colleges, including interventions that target school and college-level factors and engage them as active partners, including mobilising the broader 'school and college community' of students, teachers, parents and community members; and 3) promising that future trials have better measurement and more rigorous designs, including HIV incidence - or another comparable biological measure, such as HSV-2 - as the primary outcome, as well as longer-term follow-up. These recommendations can help to address remaining gaps in knowledge about youth HIV prevention, in spite of important lessons learned from the 'second generation' interventions reviewed here. These include a more definitive understanding of the merits of multi- versus single-component interventions, or of broad-based versus more narrowly targeted approaches, and developmental considerations, like age, gender, sexual activity, and schooling status. These recommendations can help to improve youth HIV prevention research, where - in spite of great progress - no interventions have yet demonstrated a reduction in HIV incidence. This

remains the most important - and essential - marker of intervention success.

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