

Unveiling of HIV Intervention and Prevention Strategies Among Youth in Sub-Saharan Africa From 2018 to 2022: Lesson Learnt

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Submitted: 19 August 2025 Accepted: 25 August 2025 Published: 31 August 2025

doi <https://doi.org/10.63620/MKJSHAR.2025.1022>

Citation: Katuli, F. K. (2025). Unveiling of HIV Intervention and Prevention Strategies Among Youth in Sub-Saharan Africa From 2018 to 2022: Lesson Learnt. *Jour of Sexu Heal and AIDS Res*, 2(4), 01-09.

Abstract

In the last three decades, efforts for prevention of HIV among youth have taken drastic measures of ensuring intervention strategies were given more attention for the reduction of new infections. Generally, it is observed that the infection rate of HIV among youth is still high and continues to increase. In Tanzania, the increase is said to be attributed to cultural, economic and social factors, and this trend affects the Tanzanian socio-economic progress. However, the prevention of HIV in this study has indicated that there is a need for more efforts in ensuring that the different measures has to target youth who are more vulnerable to HIV infections. In order to understand the right intervention, in South Africa meta-analysis was carried out to determine the success of behavioural interventions to reduce sexual risk behaviours and incidences of STIs among South African youth. Importantly, the report of UNAIDS in 2010 reported a decline in new HIV infections over the past 5 years is linked with changes of behavior and social norms together with increased knowledge of HIV. Despite of the new HIV infections still occurring, and with the use of antiretroviral treatment, strengthening HIV infections remain and should continue to be an urgent global health priority. Thus, this study has embarked on the prevention of the combination strategies, lessons learnt and challenges that persist in interventions and prevention strategies of HIV among youth in sub-Saharan Africa in empirical and theoretical literature reviews.

Keywords: HIV, Intervention, Prevention, Lessons Learnt, Challenges.

Introduction

According to the WHO report of July 2022, the African Region is the most affected with 25.6 million people living with HIV in 2021 [1]. WHO also reported that the African region accounts for almost 60% of the global new HIV infections. In 2021, it has been estimated that 28.7 million people living with HIV has received antiretroviral therapy (ART), globally. In achieving the 95-95-95 targets by 2030, it has been translated that into 95% of all people living with HIV being aware of their status, while 90% of PLHIV (people living with HIV) are receiving treatment, and 86% of all people living with HIV being found to be virally suppressed with HIV infection [1]. It is estimated that 85% of people living with HIV, will have known their status in 2021, whereby a gap of 4.0 million people that will reach the first 95 targets. It is estimated that 75% of people living with HIV were receiving treatment, although there is a gap of 5.9 million to reach the second target, the HIV infection rate is

increasing. Eventually, it is estimated that 68% of people living with HIV were virally blocked, whereby a gap of 6.7 million was estimated to reach the third target. Additionally, 92% of those people on treatment were virally suppressed, which shows the effectiveness of HIV treatment. The new HIV infections fell by 49%, between 2000 and 2021, whereby HIV-related deaths fell by 61% with some 18.6 million lives saved due to ART in the same period [1]. This attainment resulted from great efforts by national HIV programmes which is supported by civil society and various development partners [2].

In 2016, studies indicated that the status of HIV infections in Tanzania, showed that 1.4 million people were living with HIV [2]. This is compared to an estimated HIV prevalence of 4.7% (ibid, 2017: 5). Moreover, within the same year of 2016, there were 55,000 people who were newly infected with HIV, and 33,000 died from an AIDS-related illness [2]. Despite these

numbers, Tanzania has done well in regulating the HIV epidemic over the 1990s. The strategy of scaling-up access to antiretroviral treatment has helped Tanzania minimise the epidemic's impact. As a result, between 2010 and 2015, the number of latest infections declined by up to 20%, and the number of individuals dying from AIDS-related illnesses halved [2].

According to The Tanzania HIV Impact Survey 2022-2023 was a household-based national survey among adults (defined as aged 15 years above) found that there were approximately 60,000 new cases of HIV infections among adults in Tanzania during the survey year, that indicated an alarming rate [3]. In which, there were marked variations in HIV prevalence by age, sex, and region, with a higher prevalence among women and in certain regions of Mainland Tanzania. The survey indicated that the three regions in Tanzania mainland that have HIV prevalence of above 9.0% are Mbeya 9.6%, Iringa 11.1% and Njombe 12.7% respectively. In Zanzibar, HIV prevalence was below 1% in all the regions. HIV prevalence among adults aged 15 years and older was 4.5% in Mainland Tanzania and 0.4% in Zanzibar [3].

Some studies showed that youth need information and skills to enable them to participate in the actual planning and implementation of the activities of the interactions [4]. Two data dissemination systems exist currently: mass media, and local, like traditional stories. The usage of social media networks with their large audience is the best way of disseminating data, where the communicator and audience must be present and speak the same language. On the other hand, in understanding the knowledge and skills provided through modern systems, two aspects are essential: one, reliable income for purchasing sources of data, like radio and newspapers for the youth to enable them to buy newspapers and two, encourage them to read through reasonable cultural and economic basis [5]. The study aims to review the literature on the youths' efforts in the prevention of HIV and AIDS, and the effectiveness of the adopted strategies as a result of interventions within their cultural norms.

Methodology

The method used for this study covered a comprehensive literature review on the consequences of interventions and prevention in HIV and AIDS programmes and activities in sub-Saharan African countries, with particular emphasis on Tanzania, Uganda, South Africa, Botswana, and Kenya. The data covered five years, i.e. between the years of 2018 to 2022, with previous behaviour as highlights of efforts that have been done on the prevention and intervention of HIV among the youth in the literature review both empirical and theoretical.

Theory

Theory is claimed to be an essential component of successful health promotion interventions [6, 7]. The Behavioural theory can assist in knowing the determinants of risky and safe sexual behaviour (Fishbein, 2000) and hence help to spot underlying principles about how people change their behaviour [8,9]. Further, it aims to elucidate why and how behaviours occur and allows us to predict future behaviours by establishing relationships between critical variables such as culture, average age, religious practices, and conflicts [10].

This paper assessed the theoretical underpinnings of behavioural

interventions for the youth worldwide, generally claiming that a theoretical foundation contributes to the effectiveness of prevention strategies. However, no direct link between behavioural changes and behavioural interventions has been established. In the researcher's view and as shown in health promotion research, several theories coexist that aim to understand health-related behaviour and supply tools for behaviour change. The Social Learning/Cognitive Theory (SCT), Theory of Reasoned Action/Planned Behaviour (TRA/TPB), and Health Belief Model (HBM) are the major dominant theories, more recently joined by the Stages of Change (SoC) and Social Ecological Model (SEM) [11-14]. Therefore, this study will use the social cognitive theory and the health belief model to establish behaviour change.

The Social Cognitive Theory (SCT) posits that folks acquire and maintain particular behavioural patterns through a continuing interaction between three factors: environment, personal factors, and behaviour [15]. Behaviour is not simply the results of the environment and, therefore, the person, even as the environment is not merely a function of the person and behaviour [11]. The Health Belief Model (HBM) is predicated on the understanding that an individual will take a health-related action if that person believes s/he is vulnerable to the condition (perceived susceptibility). The importance of dynamics found in the condition that has serious significances (perceived severity) in the HBM model. At the same time, within the process, that action would scale back their susceptibility to the condition or its severity (perceived benefits), which outweigh the value of taking action (perceived barriers). Usually, action is imitated more quickly if the person is exposed to factors that prompt action (cues to action) and is confident in her/his ability to act successfully (self-efficacy) [13-16]. The empowerment framework is essential in this study because the empowerment strategy has been used to enable women to say 'no' to unsafe sex. Therefore, it is necessary to highlight this framework as a tool for use in behaviour change.

Empowerment Framework

The central component of empowerment is that the disempowered (with no power) can act on their behalf. This contrasts with welfare approaches, whereby the concerned people act for those who do not have the power. Empowerment is a process which increases the capacity of women and other disempowered people to analyse, know and get involved in decision-making in the world at all levels. It enhances the individuals involved to act on themselves and increase their power and control over the social resources necessary for sustainable and dignified life [17, 18].

Young person's empowerment for youth means they are empowered to take charge and control their sexuality by acting on their behalf and enjoy their human rights by accessing relevant information, skills and opportunities. Active participation implies progressive measures by removing barriers to realising their reproductive health rights and preventing human rights violations. This empowerment framework is helpful in this study as it highlights the actions and analysis leading to action and analysis for behavioural change. At the same time, young men and women know their human rights as they gain access to relevant information, skills and opportunities. This enables them to reduce AIDS infection in young women in their environment, as illustrated in Figure 1 below.

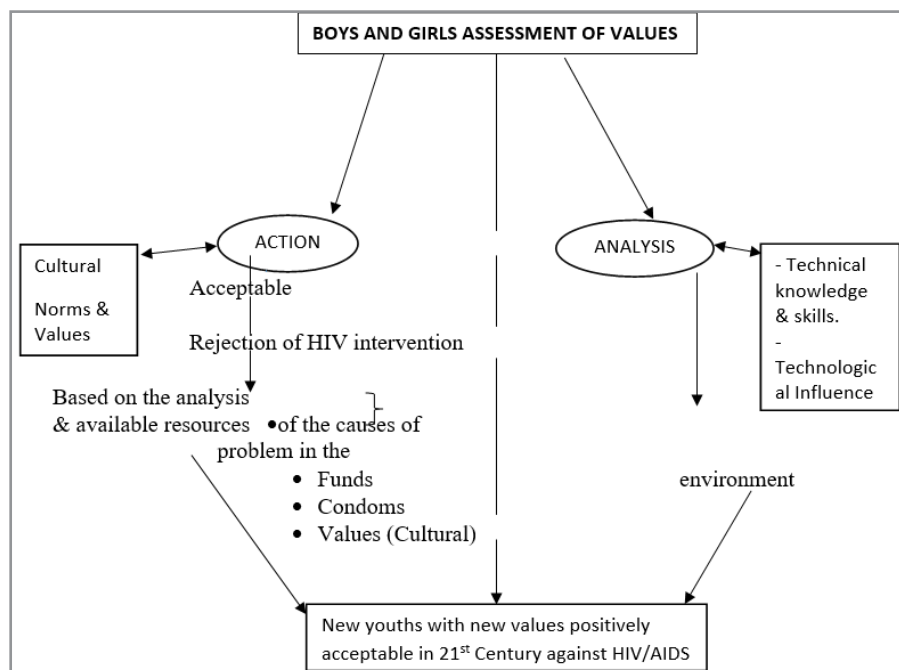


Figure 1: Young persons empowerment framework
Source: Adopted from UNICEF (1993).

Different Approaches to HIV Preventions and Interventions Among Youths in Sub-Saharan Africa

Since no cure or vaccine is accessible against HIV and AIDS, reducing sexual risk behaviour among young people is vital in undertaking the epidemic [19]. Hence, many governments, including those of South Africa and Tanzania, used in this review, and nongovernmental and international organizations are investing in HIV prevention interventions to reduce the sexual transmission of HIV among young people in sub-Saharan Africa. In order to achieve these strategies against the sexual transmission of HIV, several interventions can be used based on acceptable cultural norms, such as biomedical male circumcision. These interventions could influence individual behaviour change on current sexual norms, as discussed in this review.

Behaviour change interventions promote abstinence or delay the onset of sexual intercourse, increasing condom use and reducing the number of sexual partners. Additionally, they aim to increase knowledge, change attitudes, improve access to services, reduce stigma, or address other mediators such as self-esteem and self-efficacy points out that behavioural strategies motivate behavioural change within individuals and social units by use of a range of educational, motivational, peer-group, skills-building approaches, and community normative approaches [20-22]. Structural approaches to HIV interventions, in their turn, "should change social, economic, political, or environmental factors determining HIV risk and vulnerability" [23].

At the beginning of the review of this study, evaluations of prevention interventions and literature reviews on aspects of HIV interventions for young people (for example, media interventions and school-based interventions) indicated the outcome of the studies. Therefore, it is suggested that the limited effectiveness of these interventions is in changing young people's sexual behaviour and HIV incidence because interventions could not meet individual norms and values, which are essential measure-

ments in HIV infections.

Sexual Risk Reduction Interventions for HIV Prevention in Sub-Saharan Africa

South African youth between the ages of 15 and 24 experience a high prevalence of HIV, with about 20% of youths living with HIV (South African National AIDS Council, 2013). The primary mode of HIV transmission in South Africa is unprotected penile-vaginal sex (ibid 2013). School-aged girls and young women disproportionately have HIV transmission. It has been indicated that gender disparities within the prevalence of HIV will continue as girls age; young women aged 20 to 24 still disproportionately have HIV (21% vs 5% of young men 20 to 24 years of age) (ibid 2013).

Adolescent and adult women are more vulnerable to the transmission of HIV, which are due to sociocultural factors (for example, sexual coercion and violence and multiple partnerships with older men, who are more likely to be HIV-infected). Biological factors (for instance, more mucosal surfaces for HIV to connect to; and reproductive changes during adolescence) also play a crucial role [24]. Partner drinking also increases young women's risk for HIV [25]. A national survey of HIV transmission among South Africans showed that 33% of young men and 11% of young women (15 to 24 years of age) report that current alcohol use, with 18% of young men and 3% of young women-reporting hazardous or harmful levels of alcohol consumption [26]. However, the association between alcohol consumption and risky sexual behaviours are similar for young men and women, sexual coercion indicated most occurrences when sex is preceded by alcohol consumption underscoring young women's limited power in these relationships [25-28]. In determining the extent to which interventions can significantly impact on gender inequalities, gender violence, and alcohol use among South African youth is critical for understanding the extent to which the context of sexual risks is often changed to scale back the

Previous literature reviews by Hoffman et al. (2006) and Peltzer et al., (2011) focused on evaluating the efficacy of behavioural HIV interventions among youth in developed and developing countries. These previous reviews suggest that behavioural HIV interventions targeting the youth are successful at delaying sexual intercourse, increasing condom use, and averting sexually transmitted infections in most of developed countries [29, 30]. On the contrary, the success of youth-based interventions to scale back sexual risk behaviours in developing countries has been on mixed strategies [31, 32]. These reviews tend to specialize on interventions targeting adolescents in specific countries within sub-Saharan Africa. During a narrative review of interventions for South African youth, Harrison et al. (2010) described the intervention features available in the range of data. However, they could not determine the efficacy of these interventions [33]. The efficiency of ways of intervention specifically targeting South African youth has encompassed factors that moderate intervention effectualness that has received limited attention. Few reviews have attended to intervention features that address gender inequalities or alcohol use on a small scale. Developing, implementing, and evaluating effective HIV prevention programs for South African youth that address the context during which sexual risk occurs may be a public health concern.

Understanding which interventions work and why is critical for the event of effective interventions that are targeted and tailored to South African youth. This meta-analysis aimed to determine the state of the science concerning the success of behavioural interventions to scale back sexual risk behaviours and, therefore, the incidence of STIs among South African youth. The success of intervention depends on modifying sexual behaviour as inferred from the study reports mostly among sexually active youth, which intended to increased condom use and reduced the number of sexual partners and incidence of STIs. The researcher expected that interventions (vs controls) would be more successful in reducing sexual risk behaviours once they sampled:

- (a) men, thanks to young South African women's limited power in relationships [34],
- (b) few alcohol users, that include abuse and dependence, which is related to sexual risk-taking behaviours; and
- (c) youth who are engaging in lower risk which indicated at baseline (i.e., protected vaginal/anal sex, and fewer sexual partners) [35].

During the evaluation of the intervention content, the researcher focused on identifying the extent to which interventions addressed contextual issues (for example, gender inequalities and alcohol use) related to risky sexual behaviour among youth in South Africa.

As intervention strategies have focused on alcohol use, condom usage does not indicate a behavioural change. Gender inequalities must be included to understand how HIV impacts the youth. HIV prevention programmes are working and will continue to work, as the UNAIDS (2010) reported on the worldwide AIDS epidemic. According to this report, the decline in new HIV infections over the past five years is linked with changes in behaviour and social norms alongside increased knowledge of HIV and AIDS. Moreover, with two new infections that occurs for

each individual who started on antiretroviral treatment, in this regard, the strengthening of HIV intervention still remains and is an urgent global health priority. Although many proven prevention tools exist, prevention efforts suffer from numerous common weaknesses. So far, prevention strategies have embarked on reducing individual risk.

On the other hand, there are fewer efforts in dealing with structural sociocultural, political, economic, legal and other contextual factors that increase vulnerability to HIV spread [36]. In the case of national prevention programmes, which are often made from a set of disconnected interventions, these often lack clear milestones, clearly articulated causal pathways and unmistakable connections with other programmes that contribute to achieving equivalent prevention targets. In most cases, the weak investments in combined strategies on planning, monitoring and evaluation systems has reduced, hence the decision-makers are confidence in the existing prevention tools and whereby they stopped programme planners and implementers from improving the prevention efforts over time, increasing the likelihood of HIV infections.

Some studies on modes of transmission (MoT) and previous analytical studies on HIV prevention, carried out by UNAIDS (2010), as well as research papers by Lancet, have identified a diversity of weaker areas in prevailing prevention efforts (The 2008 Lancet Series on HIV Prevention). It has been pointed out that while a combination of intervention and prevention strategies are widely allowed within the AIDS policy discourse, they are seldomly implemented. The key weaknesses cited include:

1. The failure to concentrate to the populations that has at most significant risk,
2. focusing resources on primary transmission routes and unexplained variations from year to year in resources for crucial prevention strategies,
3. the striking deficit of structural interventions to deal with underlying causes of vulnerability, and
4. inadequate prevention services for people living with HIV.

HIV research and programme experts, civil society and policy-makers began to unite behind the broad concept of combination prevention to beat the weaknesses in recent years. Combination prevention strategy has been indicated to help planners and programmers that face one of the central challenges in HIV prevention, is coming to terms with the epidemic [23]. Efforts to market HIV risk reduction must address individual knowledge, attitudes and choices, and the social, cultural, political and economic features that affect individual as well as collective attitudes, behaviour, and vulnerability in the life cycle.

In addition to these basic social science and public health principles, has shown that the emergent consensus on combination prevention has been supported by an analysis of successful country programmes. In every continual public health success, there has depended different strategic combination of biomedical, behavioural and structural prevention strategies to address individual-level risks, as well as to create a more enabling environment for health [37]. The use of a combination prevention approach in some countries have shown a remarkable sharp decline in HIV infections. In the HIV response, the countries that have created

sharp, sustained reductions in new HIV infections have used a combination prevention approach in HIV prevention.

Gender norms, attitudes toward differences and inequality, and other cultural and social factors under play laws and policies that lead to social marginalization of groups such as sex workers, migrants, gays, or individuals who use drugs [38, 39]. Therefore, there is a need for having an enabling environment for prevention of HIV that requires a "bottom-up" structural interventions. Therefore, in producing a more authorising environment for HIV prevention, usually requires "bottom-up" structural interventions for better reduction of HIV infections. These structural interventions promote community dialogue, strategic advocacy with leaders to shift harmful policies and laws, and mobilization to reflect upon and revise harmful attitudes and norms including youth and individual participation.

At least, in documenting social drivers also allows for exploring potential linkages between HIV prevention and intervention programmes and broader development efforts, as a whole. In sub-Saharan Africa, where adolescent girls are several times more likely to become infected than boys their age, the evidence-gathering process should examine possible synergies between HIV prevention programmes, as well as initiatives in the promotion of universal primary and secondary education. and the initiatives that will promote universal primary and secondary education. Studies conducted over the last 15 years have consistently found a relationship between educational attainment and reduced sexual risk behaviours among girls. In addition, in documenting the effects of gender inequality on women's vulnerability to HIV, studies should consider possible compatibilities and synergies between HIV-specific programming and broader efforts to empower women and girls, that will change gender norms, and reduce women's social, economic and legal disadvantages. This major factor could be reduced by planning interventions that would operate synergistically on the individual, relationship, community and societal levels [23-39].

Studies show that community-led interventions can improve people's HIV-related knowledge and attitude service, access and enhance prevention, treatment and care outcomes. They do that by providing services that are more convenient and relevant, building trust and respect among providers and patients, and reducing discriminatory practices [40, 41]. Those services can be more effective than standard health facility-based platforms for reaching the marginalized and under-served populations, mainly when they are underpinned by capacity of development [40-42]. Community-led interventions have assisted in reducing HIV and sexually transmitted infection (STI) occurrences among sex workers (as seen in India and the United Republic of Tanzania). Here empowered sex workers (many of them indigenous or women of colour) in Vancouver, Canada, take advantage of health services, and enable the youth to stay on HIV treatment in Zimbabwe by meeting their psychosocial needs [43, 44]. The adaptability of community-led services was particularly crucial during the first year of the COVID-19 pandemic, when community-led organizations set up medicine and food pick-up schemes and sites, arranged home deliveries and shifted outreach work to virtual platforms [42]. United Nations Member States have committed to increasing the proportion of HIV services delivered by community-led organizations to 30% on HIV testing and

treatment services; 80% for high-risk population on prevention services; and 60% of programmes to attainably society's enabling environment by the year 2025 [45].

In order to reach those targets, there is a need to realize the full potential of community-led HIV interventions, governments and other stakeholders must support the GIPA (Greater Involvement of People living with HIV) principle and make intensive efforts to ensure the full involvement of people living with HIV, as well as key populations, including women, adolescent girls and young people in the early and in all stages of the HIV response. More must be done to understand community as an organizational concept to ensure the complete voice and participation of those traditionally left behind, including all key population and people living with HIV and adolescent girls and boys, women, people with disabilities, migrants and refugees affected by HIV [44]. Consequently, stakeholders should turn the political commitment into action and integrate community-led interventions into the existing health sector in responses for planning, implementation and monitoring at all levels. Obstructive laws and policies should be changed, and community support should be available. In the other hand, new policies, guidance and models are needed to scale up community-led responses. More consistent, easily accessible funding and capacity-building support should be made available to enable critical populations, women and young people to assume leadership roles in the HIV response.

Case Studies of Sexual Education in Schools for Youth in Sub-Saharan Africa

Prior reviews of youth intervention studies in both developed and developing countries by various authors [6-51] suggest a crucial role for school-based interventions in increasing young people's knowledge of sexuality, reproductive health, and HIV prevention, with a majority resulting in reductions in reported risk behaviours [6]. Reviews of school-based interventions specific to sub-Saharan Africa have found a more significant intervention impact on HIV-related knowledge and attitudes than on reported sexual behaviours [48, 49], a finding reinforced by two previous large-scale trials in Tanzania, the Mema Kwa Vijana (MkV) Project, and Zimbabwe, the Regai Dzive Shiri (RDS) Project [52, 53].

The lessons learned from these trials of knowledge and attitudes, self-efficacy, sexual behaviour, and self-reported pregnancy were well perceived. These lessons included the necessity for the youth to disagree with norms that regarding to sexual risk behaviours and address a broad range of interpersonal, cultural and structural factors that underlying HIV risk among youth (Mema Kwa Vijana, 2008). Further, strengthening and broadening existing approaches, like school-based programmes, and adopting new approaches to scale back youth HIV incidence in Sub-Saharan Africa is essential [37-49]. In order to comprehend the recent indications for youth HIV prevention in sub-Saharan Africa and to answer the question of 'which intervention work and 'why', there is a need to review which interventions work and why which will determine the characteristics of successful interventions.

While several systematic reviews of HIV prevention interventions have included developing country adolescents [6-53], amongst these authors, only three focused on Sub-Saharan Af-

rica [48-50]. Two reviews included only school-based studies, while the third group of reviewed studies with an HIV endpoint [37-48]. Further, many reviews primarily consider methodological and study design issues [48-50]. Moreover, the reviews may include few details about interventions or on secondary and process outcomes that show trails to intervention outcomes. The primary focus needs to include gender relations for better results. Lastly, since published studies often support systematic reviews, recently-completed studies could also be excluded, although these may offer relevant lessons learned, helping to spot promising approaches. Current debates on 'which interventions work better and the reasons have been renewed following recent trials which have indicated good results. South Africa's continual strictness of the HIV epidemic led to formulate new insistence to those questions and their answers [54]. The results of the HIV interventions, which is specific to the South African context is an important research priority, that should support intervention approaches for sub-Saharan Africa more broadly [37]. More important is to notify of the results of an evidence-based, state-of-the-art approach to youth HIV prevention in South Africa, the researcher reviewed ongoing or recently completed intervention studies. This was intended to systematically assess the characteristics of rigorously designed youth HIV prevention interventions to raise the question of understanding how they work and why.

Lessons Learnt

The most critical lesson learnt from the economic empowerment interventions, and that has been concluded by a number of the authors is that microcredit without proper mentorship will not be the most direct intervention for many youths [55]. While girls may grapple with loan repayment, they will even be susceptible to HIV infection. However, as noted by the IMAGE study, in much older women with already established business skills, microcredit has the potential to scale back poverty while facilitating better health [46]. This recommends a condition for interventions which included on addressing the structural issues of young people's SRH risks to study in understanding the ways of influence.

Another lesson learnt from the interventions is that tiny loans used for income generation have the potential to scale back poverty directly while also facilitating better health; however, as noted within the TRY intervention, and SHAZ! (Mema kwa vijana, 2008), economic empowerment interventions with a classic microfinance model may fail with most vulnerable girls because their primary needs might not initially be entrepreneurship except for physical safety, social support, friendship, and mentorship [55,56]. Lessons from the TRY intervention pointed to the necessity to give girls these critical skills, so that they would be ready to think constructively about making and saving money. Given these critical lessons from both attempts to SHAZ!, a staged approach to livelihood interventions is brighter because it considers the evolving capabilities and vulnerabilities of women and young women. SHAZ!, further pointed to the extra advantage of enhancing social support from families and friends as necessary inputs to strengthen adolescent girls' sense of economic empowerment.

Achievements from interventions that specialize in improving school attendance insist on the advantages of reducing economic barriers to high school attendance for women. The combina-

tion of mixture of safe spaces, financial education, and savings accounts that addresses various vulnerabilities that shows girl's face, including social isolation, financial responsibilities, and relationships with men that involve high levels of economic dependence. These interventions point to the necessity to specialize in sensitive and deep-rooted social norms determining relationships if these need to be modified and giving attention to the broader community, not just young women. This is frequently critical for obtaining community buy-in. Many parents need support that effectively define and convey their values and expectations about sexual behaviour and communicate important messages about HIV, STIs and pregnancy prevention with their children.

Challenges

Many challenges continue in translating lessons learned into practice. Linkages between HIV and sexual and reproductive health services have got to be strengthened. Programmes and financial resources still target youth with a low risk of HIV infection rather than those who specialize in those most at-risk [57]. Legal policies present barriers; for instance, the age of consent to accessing sexual and reproductive health commodities, including HIV tests, must be reformed. Inadequate coordination between different national stakeholders, like Government ministries and civil society organizations, still hinders a coordinated, comprehensive HIV response for children [58]. In this regards, children still need more chances for expressive appointment in advocacy and decision making, in order to air their voices on HIV deliberate infections.

Insufficient organisation between different national stakeholders, like Government ministries and civil society organizations, where immobility deters a coordinated, comprehensive HIV response for children. Furthermore, the youth still need more opportunities for meaningful engagement in advocacy and decision making on valuable methods of HIV prevention [31].

"Know Your Epidemic/Know Your Response" are synthesis methods that are used by various nations, from Swaziland to Thailand, to review and redesign their HIV prevention programmes. These involve assembling and applying available knowledge about the epidemic, the national response, factors that increase or decrease risk and vulnerability, community needs and priorities, and existing programmes and capacities. This data is usually spreading or held in separate "silos" of experience and action. AIDS experience in over 25 countries shows that bringing together this expertise and knowledge may be a feasible and robust approach to improving prevention planning [5]. Essential elements of the approach include

- identifying relative modes of HIV transmission,
- identifying geographic patterns,
- estimating the dimensions of critical populations,
- documenting vital structural factors that increase risk and vulnerability, and
- describing the overall national response.

Conclusion

Whilst the number of interventions aimed toward addressing the structural drivers of risk among youth is on the increase, there is a requirement for interventions to possess a transparent focus, indicate the pathways of risk they are trying to deal with

and have a rigorous evaluation strategy to assess whether and the way they work to scale back young people's vulnerability to HIV. Rational prevention planning requires an understanding of the relative contribution of various modes of HIV transmission to incident HIV infections, also as an identification of the populations most in need of prevention services. Characterizing incident infections has long been a challenge within the HIV field – not only in resource-limited settings but also in high-income countries [59–64]. A good way of receiving in combining behavioural, biomedical and structural practitioners and in dialogue with the affected communities and networks of individuals living with HIV/AIDS has proven to be a good way of receiving information [64, 65].

References

- UNAIDS. (2022). Global AIDS update. Geneva, Switzerland, pp. 6–8.
- UNAIDS. (2017). Report on HIV data: HIV around world, Sub-Saharan Africa, Tanzania. Avert Organization. Geneva, Switzerland, p. 4.
- Tanzania HIV Impact Survey [THIS]. (2023, December). Summary sheet 2022–2023. Tanzania National Bureau of Statistics, Dodoma, Tanzania.
- Collins, D. (1998). Organizational change: Sociological perspectives. Routledge. ISBN 0-415-17156-3, p. 214.
- UNAIDS, & World Health Organization. (2011). HIV prevalence map 2010: A global view of HIV infection. Geneva, Switzerland: UNAIDS & WHO.
- Kirby, D., Laris, B. A., & Roller, L. A. (2007). Sex and HIV education programs: Their impact on sexual behaviors of young people throughout the world. *Journal of Adolescent Health*, 40(3), 206–217. <https://doi.org/10.1016/j.jadohealth.2006.11.143>
- Green, J. (2000). The role of theory in evidence-based health promotion practice. *Health Education Research*, 15(2), 125–129. <https://doi.org/10.1093/her/15.2.125>
- Fishbein, M. (2000). The role of theory in HIV prevention. *AIDS Care*, 12(3), 273–278. <https://doi.org/10.1080/09540120050042918>
- Family Health International. (2002). Behavior change—A summary of four major theories. Family Health International, Arlington, TX, USA.
- Michielsen, K., Chersich, M. F., Luchters, S., De Koker, P., Van Rossem, R., & Temmerman, M. (2010). Effectiveness of HIV prevention for youth in sub-Saharan Africa: Systematic review and meta-analysis of randomized and nonrandomized trials. *AIDS*, 24(8), 1193–1202. <https://doi.org/10.1097/QAD.0b013e3283384791>
- Glanz, K., Rimer, B. K., & Lewis, F. M. (2002). Health behavior and health education: Theory, research, and practice. John Wiley & Sons.
- Glanz, K., & Bishop, D. B. (2010). The role of behavioral science theory in development and implementation of public health interventions. *Annual Review of Public Health*, 31(1), 399–418. <https://doi.org/10.1146/annurev.publhealth.012809.103604>
- National Cancer Institute. (2005). Theory at a glance: A guide for health promotion practice. Washington, DC: National Cancer Institute.
- Glanz, K., Lewis, F. M., & Rimer, B. K. (1990). Health behavior and health education: Theory, research, and practice. Jossey-Bass.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Michielsen, K., Chersich, M., Temmerman, M., et al. (2012). Nothing as practical as a good theory? The theoretical basis of HIV prevention interventions for young people in sub-Saharan Africa: A systematic review. *AIDS Research and Treatment*, 2012, 729–741. <https://doi.org/10.1155/2012/345327>
- Tanzania Gender Networking Programme [TGNP]. (1993). Gender profile of Tanzania. Dar es Salaam: Inter-Press.
- Mascarenhas, O. (2007). Gender profile of Tanzania: Enhancing gender equity. Tanzania Gender Networking Programme (TGNP) & Swedish International Development Cooperation Agency (SIDA). Dar es Salaam: TGNP, E&D Ltd.
- UNAIDS. (2011). World AIDS Day Report 2011: How to get to zero—Faster. Smarter. Better. Geneva: UNAIDS.
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action control: From cognition to behavior* (pp. 11–39). Heidelberg: Springer. https://doi.org/10.1007/978-3-642-69746-3_2
- Becker M. H., (1974). The health belief model and personal health behavior, *Health Education Quarterly*, vol. 2, no. 4, pp. 324–508.
- Becker M. H., (1974). The health belief model and personal health behavior, *Health Education Quarterly*, vol. 2, no. 4, pp. 324–508.
- Coates, T. J., Richter, L., & Caceres, C. (2008). Behavioural strategies to reduce HIV transmission: How to make them work better. *The Lancet*, 372(9639), 669–684. [https://doi.org/10.1016/S0140-6736\(08\)60886-7](https://doi.org/10.1016/S0140-6736(08)60886-7)
- Gupta, G. R., Parkhurst, J. O., Ogden, J. A., Aggleton, P., & Mahal, A. (2008). Structural approaches to HIV prevention. *The Lancet*, 372(9640), 764–775. [https://doi.org/10.1016/S0140-6736\(08\)60887-9](https://doi.org/10.1016/S0140-6736(08)60887-9)
- Quinn, T. C., & Overbaugh, J. (2005). HIV/AIDS in women: An expanding epidemic. *Science*, 308(5728), 1582–1583. <https://doi.org/10.1126/science.1112489>
- Hoffman, S., O'Sullivan, L. F., Harrison, A., Dolezal, C., & Monroe-Wise, S. (2006). HIV risk behaviors and the context of sexual coercion in young adults' sexual interactions: Results from a diary study in rural South Africa. *Sexually Transmitted Diseases*, 33(1), 52–58. <https://doi.org/10.1097/01.olq.0000187207.33663.c1>
- Peltzer, K., Davids, A., & Njuho, P. (2011). Alcohol use and problem drinking in South Africa: Findings from a national population-based survey. *African Journal of Psychiatry*, 14(1), 30–37. <https://doi.org/10.4314/ajpsy.v14i1.65466>
- Morojele, N. K., Brook, J. S., & Kachieng'a, M. A. (2006). Perceptions of sexual risk behaviours and substance abuse among adolescents in South Africa: A qualitative investigation. *AIDS Care*, 18(3), 215–219. <https://doi.org/10.1080/09540120500456241>
- Kalichman, S. C., Simbayi, L. C., Kaufman, M., Cain, D., & Jooste, S. (2007). Alcohol use and sexual risks for HIV/AIDS in sub-Saharan Africa: Systematic review of empirical findings. *Prevention Science*, 8(2), 141–151. <https://doi.org/10.1007/s11121-006-0061-2>
- Johnson, B. T., Carey, M. P., Marsh, K. L., Levin, K. D.,

- & Scott-Sheldon, L. A. (2003). Interventions to reduce sexual risk for the human immunodeficiency virus in adolescents, 1985–2000: A research synthesis. *Archives of Pediatrics & Adolescent Medicine*, 157(4), 381–388. <https://doi.org/10.1001/archpedi.157.4.381>
30. Johnson, B. T., Scott-Sheldon, L. A., Huedo-Medina, T. B., & Carey, M. P. (2011). Interventions to reduce sexual risk for human immunodeficiency virus in adolescents: A meta-analysis of trials, 1985–2008. *Archives of Pediatrics & Adolescent Medicine*, 165(1), 77–84. <https://doi.org/10.1001/archpediatrics.2010.251>
 31. Michielsen, K., Chersich, M. F., Luchters, S., De Koker, P., Van Rossem, R., & Temmerman, M. (2010). Effectiveness of HIV prevention for youth in sub-Saharan Africa: Systematic review and meta-analysis of randomized and nonrandomized trials. *AIDS*, 24(8), 1193–1202. <https://doi.org/10.1097/QAD.0b013e3283384791>
 32. Paul-Ebhohimhen, V. A., Poobalan, A., & Van Teijlingen, E. R. (2008). A systematic review of school-based sexual health interventions to prevent STI/HIV in sub-Saharan Africa. *BMC Public Health*, 8(4). <https://doi.org/10.1186/1471-2458-8-4>
 33. Harrison, A., Newell, M. L., Imrie, J., & Hoddinott, G. (2010). HIV prevention for South African youth: Which interventions work? A systematic review of current evidence. *BMC Public Health*, 10(102), 241–253. <https://doi.org/10.1186/1471-2458-10-102>
 34. Pettifor, A. E., Measham, D. M., Rees, H. V., & Padian, N. S. (2004). Sexual power and HIV risk, South Africa. *Emerging Infectious Diseases*, 10(11), 1996–2004. <https://doi.org/10.3201/eid1011.040252>
 35. Palen, L. A., Smith, E. A., Flisher, A. J., Caldwell, L. L., & Mpopfu, E. (2006). Substance use and sexual risk behavior among South African eighth grade students. *Journal of Adolescent Health*, 39(5), 761–763. <https://doi.org/10.1016/j.jadohealth.2006.04.022>
 36. UNAIDS. (2007). Knowing your epidemic: 2007 annual report. Geneva: UNAIDS. http://data.unaids.org/pub/Report/2008/jc1535_annual_report07_en.pdf
 37. Cowan, F. M., & Pettifor, A. (2009). HIV in adolescents in sub-Saharan Africa. *Current Opinion in HIV and AIDS*, 4(4), 288–293. <https://doi.org/10.1097/COH.0b013e32832c7d10>
 38. Ross, D. A. (2010). Behavioural interventions to reduce HIV risk: What works? *AIDS*, 24(Suppl 4), S4–S14. <https://doi.org/10.1097/01.aids.0000390703.33941.38>
 39. Katuli, F. K. (2020). Unleashing gender equality and access to knowledge among smallholder farmers: Rethinking implication to poverty reductions. *International Journal of Gender Studies*, 5(1), 29–43. <https://doi.org/10.47604/ijgs.1187>
 40. Ayala, G., Sprague, L., Van Der Merwe, L. L., Thomas, R. M., Chang, J., Arreola, S., & others. (2021). Peer- and community-led responses to HIV: A scoping review. *PLOS ONE*, 16(12), e0260555. <https://doi.org/10.1371/journal.pone.0260555>
 41. Ibiloye, O., Masquillier, C., Jwanle, P., Van Belle, S., Van Olmen, J., Lynen, L., & others. (2022). Community-based ART service delivery for key populations in sub-Saharan Africa: Scoping review of outcomes along the continuum of HIV care. *AIDS and Behavior*, 26(7), 2314–2337. <https://doi.org/10.1007/s10461-022-03659-2>
 42. Kiragu, M., Fonner, V. A., Munywiny, S., Izulla, P., Pantelic, M., Restoy, E., & others. (2020). Does capacity development increase demand for health services and rights among key populations affected by HIV? A systematic review of evidence from low- and middle-income countries. *AIDS and Behavior*, 24(8), 2268–2281. <https://doi.org/10.1007/s10461-019-02742-w>
 43. Kerrigan, D., Mbawambo, J., Likindikoki, S., Davis, W., Mantsios, A., Beckham, S. W., & others. (2019). Project Shikamana: Community empowerment-based combination HIV prevention significantly impacts HIV incidence and care continuum outcomes among female sex workers in Iringa, Tanzania. *Journal of Acquired Immune Deficiency Syndromes*, 82(2), 141–148. <https://doi.org/10.1097/QAI.0000000000002100Mavhu>
 44. Willis, N., Mufuka, J., Bernays, S., Tshuma, M., Mangenah, C., et al. (2020). Effect of a differentiated service delivery model on virological failure in adolescents with HIV in Zimbabwe (Zvandiri): A cluster-randomised controlled trial. *The Lancet Global Health*, 8(2), e264–e275.
 45. Nnko, S., Kuringe, E., Nyato, D., Drake, M., Casalini, C., Shao, A., et al. (2019). Determinants of access to HIV testing and counselling services among female sex workers in sub-Saharan Africa: A systematic review. *BMC Public Health*, 19(1), 15, 1–12.
 46. Ross, D. A., Wight, D., Dowsett, G., Buve, A., Obasi, A. I. N., et al. (2006). The weight of evidence: A method for assessing the strength of evidence on the effectiveness of HIV prevention interventions among young people. In *Preventing HIV/AIDS in Young People: A Systematic Review of the Evidence from Developing Countries* (WHO Technical Report Series 938, Ch. 4). UNAIDS Inter-agency Task Team on Young People.
 47. Wegbreit, J., Bertozzi, S., DeMaria, L. M., & Padian, N. S. (2006). Effectiveness of HIV prevention strategies in resource-poor countries: Tailoring the intervention to the context. *AIDS*, 20(9), 1217–1235.
 48. Gallant, M., & Maticka-Tyndale, E. (2004). School-based HIV prevention programmes for African youth. *Social Science & Medicine*, 58(7), 1337–1351.
 49. Paul-Ebhohimhen, V., Poobalan, A., & van Teijlingen, E. R. (2008). A systematic review of school-based sexual health interventions to prevent STI/HIV in sub-Saharan Africa. *BMC Public Health*, 8(4).
 50. Oakley, A., Fullerton, D., Holland, J., Arnold, S., et al. (1995). Sexual health education interventions for young people: A methodological review. *British Medical Journal*, 310, 158–162.
 51. Stanton, B., Kim, N., Galbraith, J., & Parrott, M. (1996). Design issues addressed in published evaluations of adolescent HIV-risk reduction interventions: A review. *Journal of Adolescent Health*, 18, 387–396.
 52. Ross, D. A., Chagalucha, J., Obasi, A. I. N., Todd, J., Plummer, M., Cleophas-Mazige, B., et al. (2007). Biological and behavioural impact of an adolescent sexual health intervention in Tanzania: A community, randomized trial. *AIDS*, 21, 1943–1955.
 53. Cowan, F. M. (2008). Cluster randomized trial of a multi-component HIV prevention intervention for young people in rural Zimbabwe. University College London, Technical Briefing Note.

54. UNAIDS. (2010). AIDS Epidemic Update. Geneva: Joint United Nations Programme on HIV/AIDS.
55. Pettifor, A. E., Kleinschmidt, I., Levin, J., Rees, H. V., MacPhail, C., Madikizela-Hlongwa, L., et al. (2005). A community-based study to examine the effect of a youth HIV prevention intervention on young people aged 15–24 in South Africa: Results of the baseline survey. *Tropical Medicine & International Health*, 10(10), 971–980.
56. Goldstein, S., Usdin, S., Scheepers, E., & Japhet, G. (2005). Communicating HIV and AIDS: What works? A report on the impact evaluation of Soul City's fourth series. *Journal of Health Communication*, 10(5), 465–483.
57. Hayes, R., Kapiga, S., Padian, N., et al. (2010). HIV prevention research: Taking stock and the way forward. *AIDS*, 24(Suppl 4), S81–S92.
58. Jewkes, R., Wood, K., & Duvvury, N. I. (2010). "I woke up after I joined Stepping Stones": Meanings of an HIV behavioural intervention in rural South African young people's lives. *Health Education Research*, 25, 1074–1084.
59. Mavedzenge, S. M. N., Doyle, A. M., & Ross, D. A. (2011). HIV prevention in young people in sub-Saharan Africa: A systematic review. *Journal of Adolescent Health*, 49(6), 568–586.
60. Belser, J. A., Katz, J. M., & Tumpey, T. M. (2011). The ferret as a model organism to study influenza A virus infection. *Disease Models & Mechanisms*, 4(5), 575–579. <https://doi.org/10.1242/dmm.007823>
- Katuli, F. K. (2010). Towards understanding of gender relations and HIV/AIDS prevention strategies among youth in Kinondoni Municipality in Dar es Salaam Region, Tanzania. PH.D. Thesis, Open University of Tanzania: Dar es Salaam.
61. UNICEF. (2018). Gender Toolkit: Integrating gender in programming for every child in South Asia. UNICEF Regional Office for South Asia.
62. Global Partnership for Education. (2018). Guidance for developing gender-responsive education sector plans. Washington, DC: GPE.
63. Painter, J. E., Borba, C. P. C., Hynes, M., Mays, D., & Glanz, K. (2008). The use of theory in health behavior research from 2000 to 2005: a systematic review. *Annals of Behavioral Medicine*, 35(3), 358–362.
64. South Africa National AIDS Council. (2016). South African HIV and TB investment case: Reference summary report, Phase 1. Pretoria: SANAC.
65. UNESCO. (2008). Rethinking how to prevent HIV in young people: Evidence from two large randomized controlled trials in Tanzania and Zimbabwe (Policy Briefing Paper No. 10, Mema Kwa Vijana). Paris: UNESCO.