

Adolescent Girls and Young Womens' perspectives of how their lives were impacted by participating in a combination HIV-prevention intervention in South Africa: a qualitative study

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Abstract

Background: HIV incidence among adolescent girls and young women (AGYW) aged 15-24 in sub-Saharan Africa remains exceptionally high. Evidence shows that no single HIV prevention strategy will be effective in controlling the HIV pandemic. Research in recent years demonstrates the need for combination HIV prevention efforts, including biomedical, behavioral, and structural interventions. Given the urgent need to identify strategies that effectively reduce HIV risk among AGYW, it is crucial to understand how best to maximize the impact of combination HIV prevention interventions. This qualitative study explored the perceived impacts of a combination HIV-prevention intervention on the lives of AGYW in South Africa.

Methods: The study is based on the findings from a qualitative evaluation of the RISE Club Programme, one component of a combination HIV intervention for AGYW. Using 24 focus group discussions and 63 in-depth interviews with 237 AGYW, we explored participants' experiences and perceptions of participating in a combination HIV prevention intervention and how it was perceived to impact their lives.

Results: From the perspectives of AGYW, the intervention was perceived to positively impact their ability to communicate and develop and maintain healthy relationships with family, peers and partners. The findings show that the intervention helped increase their sexual and reproductive health (SRH) knowledge which improved their sexual self efficacy while also encouraging positive behavioural choices such as contraceptive uptake. It was also perceived to improve AGYW lives and personal development, specifically their self confidence and self esteem. However, logistical challenges with the implementation of the intervention and unmet expectations, created frustration and negative perceptions of the intervention in some instances.

Conclusions: Overall, the findings demonstrate that intervention recipients perceived mostly positive impacts on their lives as a result of participating in the RISE programme. Understanding the perspectives of AGYW, is helpful in order to assess the benefits and perceived impacts of such an intervention on the lived realities of intended beneficiaries. Taking these perspectives into consideration and understanding some of the unforeseen negative impacts of the intervention can help to inform the design and implementation of future combination HIV prevention interventions for a similar sub-group of the population.

Acknowledgements

I would like to sincerely thank my supervisor Dr Alison Swartz for her encouragement and patience over the past 4 years. Without a phone call early in 2019, her continued motivation and belief in me, this thesis would not have been completed. A special thank you to Dr Zoe DUBY for allowing me to be part of this study and her unwavering support and guidance throughout this process. Thank you for your optimism and helping to light the “academic spark” in me once again.

Thank you to my managers Stephanie and Velma. Working full time and completing my studies is one of the hardest things I have ever had to do. Thank you for supporting and encouraging me to focus on my academics while giving me the time and space needed to do so.

A big thank you to my love, Justin. Your patience and support helped guide me through some very difficult times over the past 4 years. Nothing seemed impossible with you by my side.

I would also like to extend my deepest gratitude and thanks to my mom and role model Melanie. I owe my education to you. This thesis is dedicated to you and is testament to all the sacrifices you have made to help me reach this goal.

Finally I would like to thank all the adolescent girls and young women who participated in the HerStory study. Without your time and courage to share your experiences, this study would not have been possible.

Declaration

I, Wilmé Verwoerd hereby declare that the work in this thesis is based on my original work (except where acknowledgements indicate otherwise) and that neither the whole work or in part, is being or has been submitted towards another degree, at this University or elsewhere.

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Research Protocol

Study title: Exploring Adolescent Girls and Young Womens' perspectives on how their lives were impacted by participating in a combination HIV-prevention intervention in South Africa.

Introduction

Considerable progress has been made in combating the HIV/AIDS epidemic in the last decade (Granich et al., 2015, Sharp and Hahn, 2011). The number of new HIV infections and AIDS-related deaths have significantly declined. The global response to the epidemic has prioritized access to a continuum of HIV services such as HIV testing and antiretroviral therapy (ART), averting millions of deaths (Granich et al., 2015). Yet despite progress being made, HIV remains a global epidemic and major public health concern around the world. According to the latest statistics, UNAIDS estimates that globally 37.9 million (32.7 million–44.0 million) are living with HIV. East and Southern Africa is at the epicentre of the global HIV epidemic, bearing more than half of the global burden of infection (UNAIDS, 2019; Dellar et al., 2015). In 2018 alone, 800,000 new HIV infections were reported (UNAIDS, 2019)

Adolescent girls and young women aged (AGYW) 15–24 years are at particularly high risk of HIV infection (UNAIDS, 2016) and are twice as likely to be living with HIV than men (UNAIDS 2019). Research has shown that the high incidence of HIV acquisition among adolescent women is fuelled by a myriad of factors which can limit preventative, health seeking or treatment behaviours (Dunbar et al. 2014; Sumartojo, 2000; Gibbs, Misselhorn and Mangoma 2012). Research shows that unsafe sex practices and other risk factors for HIV/AIDS such as drug dependency are commonly initiated in the adolescent age group (Salam et al., 2014). Evidence also points to the age-sex disparity in HIV acquisition as one of the reasons why young women have such a high incidence of HIV compared to young men in the region (Dellar et al., 2015). Studies have found that young women are acquiring HIV far earlier (5-7 years) than young men, which has been attributed to earlier sexual debut (Dellar et al., 2015).

Other reviews of the literature cite a long list of factors that have been linked to HIV risk amongst AGYW and that compound the vulnerability of AGYW. These range from gender-based or intimate partner violence, risk factors such as unprotected sex and inconsistent condom use, as well structural factors such as poverty and gender inequality as factors which are likely contribute to young women's susceptibility to HIV and fuel the HIV epidemic (Marston and King, 2006; Chinsembu, 2009; Scott-Sheldon, Carey and Carey, 2010; Dunbar et al. 2014; Dellar et al., 2015; Jewkes et al., 2010).

In Africa the prevalence of HIV is substantially higher among young women than it is among young men (MacPhail, Williams and Campbell, 2002). Sub-Saharan Africa in particular has disproportionately high burden of new HIV infections, and pronounced gender gap with around 6000 newly infected young women aged 15-24 every week (UNAIDS, 2019). This echoes a growing body of research that shows that despite progress made in the global response to HIV/AIDS, HIV incidence among young women aged 15-24 in sub-Saharan Africa remains exceptionally high (Saul et al., 2018; Karim, Sibeko and Baxter, 2019).

In South Africa, latest figures suggest more than an estimated 7.7 million (7 100 000 - 8 300 0000 people) are living with HIV in South Africa, with more than 60% of that population being women (UNAIDS, 2018). Worryingly, when surveyed only 45.8% of women and men aged 15–24 years old correctly identified ways of preventing the sexual transmission of HIV (UNAIDS, 2019). As remarked in South Africa's National Strategic plan, 2017-2022 “the extraordinarily high incidence of HIV among adolescent girls and young women demands that they be singled out for extraordinary effort”(SANAC 2017, p.9). To be most effective, studies highlight the need for comprehensive HIV prevention interventions (UNAIDS, 2013). It is argued that when implemented correctly, and not focused solely on biomedical factors, behavioral and structural interventions can help overcome many of the barriers that limit preventative, health seeking or treatment behaviours such as social exclusion, stigma and inequity as well as amplifying the impact of antiretroviral therapy (UNAIDS, 2013). Research has also illustrated that when social and contextual factors are taken into account in the design

and implementation of interventions, targeting HIV risk behaviour of a target population is more successful than interventions that do not take these factors into consideration (Visser, 2007).

Yet despite the evidence showing the disproportionately high incidence of HIV infections are in young women and adolescent girls, and a growing body of research highlighting gender as a factor which impacts access to treatment, care and support, many interventions lack targeted gender specific approaches that help vulnerable young women (Gupta, 2000; Jewkes et al., 2010). Evidence in the literature illustrates that many prevention interventions remain dominated by HIV testing, antiretroviral treatment and treatment for sexually transmitted diseases as well as promoting male condom use and circumcision (Jewkes et al., 2010). Arguably, by failing to focus on issues that make young women uniquely vulnerable, interventions are failing to provide adequate help for those who need it the most (Jewkes et al., 2010).

The purpose of this study is to explore how participation in RISE Clubs programme, a peer led HIV intervention programme that focuses on gender specific issues, was perceived to impact the lives of AGYW. The RISE Clubs intervention is one component of the Global Fund Programme for Adolescent Girls and Young Women (AGYW) which was an intensive, comprehensive HIV prevention intervention that aimed to use a combination prevention approach to reduce new HIV infections amongst AGYW.

Background to the Global Fund-supported AGYW program and RISE Intervention

This qualitative research study is embedded within a broader mixed-methods study, titled “HERStory study”, which evaluated the impact of a South African combination HIV prevention intervention programme for AGYW, funded by the Global Fund. The Global Fund-supported AGYW program, aimed at reducing HIV incidence among AGYW includes an extensive package of biomedical, structural and social-behavioural interventions including health, education and support services for AGYW (in and out of school). The program used a combination of different models of life skills based HIV education designed and targeted at different age groups, with the aim to effect positive behaviour change and empowerment as well

as increasing access to sexual and reproductive health and HIV testing services. It was implemented from 2016-2019 in 10 districts across 7 provinces in South Africa. The ten districts were purposively selected as they include some of the most vulnerable AGYW in the country, with the highest HIV incidence.

The objectives of the Global Fund-supported AGYW program are closely aligned to South Africa's National Strategic Plan (NSP) for HIV, TB and STIs 2017-2022 goals which include but are not limited to "accelerating prevention to reduce new HIV and TB infections and STIs" as well as "reaching all key and vulnerable populations with customised and targeted interventions" (SANAC 2017, p.4). With a key focus on reducing HIV incidence, one of the objectives of the Global Fund-supported AGYW intervention was to be one of the programmes that will contribute to the South African government's prevention targets to reduce new HIV infections by more than 50% from 270,000 new infections to less than 100,000 by 2022 (SANAC, 2017).

The NSP explicitly acknowledges AGYW as a vulnerable population group that needs a targeted response, defining a comprehensive package of structural, biomedical and social behavioural services for the group. Driving the implementation of the package of services is the 'She Conquers' campaign - a three-year national campaign that aims to improve the lives of adolescent girls and young women in South Africa. More specifically, the objectives of the campaign is to keep girls in school, provide access to comprehensive sexuality education and access to sexual reproductive health services. A key focus of this campaign is also to tackle social factors which put AGYW at risk including gender based violence and discrimination (SANAC, 2017)

As described in the "Accelerating HIV Prevention Among Adolescent Girls and Young Women (age 15-24 years) in South Africa" report (2018), the AGYW intervention package includes behavioural, biomedical and structural HIV prevention programmes. The seven main intervention components of the Global Fund program in South Africa are Soul Buddyz Clubs,

Keeping Girls in School, Rise Clubs, the Teen Parenting Program, the Child Protection Program, Health and Welfare Jamborees and Community Dialogues on Gender Norms.

Soul Buddyz Clubs (SBC) is an in-school peer-education youth club model for young girls and boys age 10-14 years, originally developed by Soul City Institute (SCI). Club members are exposed to age-appropriate, rights-based comprehensive sexuality education, life skills, empowerment activities and sexual and reproductive health services.

The Keeping Girls in School (KGIS) (14 to 18 years) is a school-based intervention of the Department of Basic Education (DBE) that aims to identify and support female learners who are at risk of dropping out of school prematurely. Adolescent girls receive peer education, health education, homework support to improve their academic results, career guidance, and when absent from school, receive a home visit to ensure they return to school. These services are offered by 10 Peer Group Trainers (PGT) and 10 Health Educators (HE) per district (each pair being responsible for 5 schools).

In addition to the SBC and KGIS programme, comprehensive HIV, TB and sexual and reproductive health (SRH) services, services for boys at risk of abuse, perpetration, and services for victims of abuse were made available in the districts through the other intervention components such as the **Child Protection Program, Health and Welfare Jamborees and Community Dialogues on Gender Norms.**

Another key component of the Global Fund supported AGYW program, and the focus of this study is the RISE Clubs intervention.

RISE Young Women's Clubs

Rise Young Women's Clubs (RYWC) is a peer-education youth club model for young girls aged 15-19 in secondary school, or those aged 19-24 who are out of school. RYWC aim is to respond to local level gender specific risk factors and empowerment needs of young women through a comprehensive package of life skills and empowerment activities. Although RYWC is an entirely peer-led program, clubs are enrolled and facilitated by a trained volunteer who provides

age-appropriate materials. Members meet regularly to discuss and share issues that affect them and learn from each other.

Members follow a curriculum that promotes sexual and reproductive health knowledge as well as positive social behavioural change within their local contexts. Magazines form part of the curriculum which includes content that encourages members to empower themselves with knowledge and motivates them to take action to protect themselves. Clubs are incentivised in different ways to carry out activities linked to content in the magazines. In addition, clubs are also positioned to link AGYW to biomedical services such as ART, HIV testing services, contraception and other SRH services.

In the second year of grant implementation, economic, social and cultural sub-components were added to the RYWC linking AGYW to additional educational and economic opportunities. These included access to Technical and Vocational Education and Training (TVET) colleges, local microenterprise development organizations, financial literacy, basic skills development, vocational acceleration programs, job placements and career development.

The aim of the Global Fund program was to establish a minimum of 50 Rise Clubs in each district, with each Club including approximately 20 members.

Purpose of the study

The purpose of this study is to use recently collected data derived from a series of in-depth interviews (IDIs) and focus group discussions (FGDs) conducted with young women and adolescent girls who participated in the RISE Clubs intervention components. Through an in-depth analysis of the previously collected qualitative data and an extensive review of current literature, the study will seek to explore how participation in the RISE Clubs programme component was perceived to impact the lives of AGYW, from their own perspectives.

Research question:

Specifically, this study addresses the following research question: How did adolescent girls and young women who participated in the RISE clubs perceive the impacts of the intervention on their lives?

Problem statement

In South Africa, HIV incidence continues to disproportionately affect women compared to men, and young women aged 15-24, consistently have the highest incidence of HIV compared to any other age or sex cohort in South Africa (SANAC 2017; MacPhail, Williams and Campbell., 2002). To prevent an increase in HIV incidence amongst AGYW, it is critical to meet the intervention needs of adolescent girls and young women at risk of acquiring HIV/AIDS (Dellar et al., 2015). The peer education approach as employed by the RISE Clubs model, is an intervention method that is widely used as a preventative intervention method. However, the effectiveness of peer education programmes like this remains disputed in the literature with a number of studies arguing that peer education programmes have little or no effect on participants when it is not properly implemented or grounded in a strong research design (Mukoma et al. 2009; Sriranganathan et al., 2012).

Peer education programmes are seen as an inexpensive and easily implementable approach, frequently used to address young people's need for HIV prevention education and psychosocial support (Swartz et al., 2012; Chandra-Mouli, Lane and Wong, 2015). As a preventative intervention method, peer education programmes are commonly aimed at norms and peer group influences which influence health behaviour and attitudes (Swartz et al., 2012).

In the context of HIV/AIDS prevention, peer education interventions are considered effective in providing young people with SRH information and psychosocial support as well as helping youth to develop decision making skills (Swartz et al., 2012, Campbell & Foulis 2002; Delp, Brown & Domenzain 2005; Story, Lytle, Birnbaum & Perry 2002; Wiist & Snider 1991). It is argued that when implemented well, peer education interventions can offer safe spaces for adolescents to discuss issues and topics that are not sufficiently addressed elsewhere such as in their homes, communities and relationships, or considered taboo or unspeakable in other contexts

(Swartz et al., 2012). Peer led approaches have also been cited as being more effective than adult led approaches when targeting vulnerable young people with some evidence highlighting that adolescents are more likely to engage in discussions after peer led sessions compared to sessions led by adults (Rickert, Jay & Gottlieb 1991). Research has shown that peer education programmes can result in positive outcomes for AGYW, resulting in increased knowledge about HIV/AIDS and positive behaviour changes such as using condoms to prevent HIV infection and delaying sexual debut (Chandra-Mouli, et al., 2015; Michielsen et al., 2012; Visser, 2007).

Yet despite remaining a popular HIV prevention and health promotion strategy, the efficacy and positive impacts of peer education programmes remain disputed. Some researchers emphasize that there is not enough evidence to suggest the effectiveness of peer education programmes (Tolli., 2012, Harden et al., 2001). Dellar et al. (2015) argue that very few peer led studies have been evaluated and most fail to demonstrate efficacy in reducing HIV incidence or long-lasting behaviour change among adolescents.

The aim of this study is to qualitatively review how the RISE Clubs programme, a peer led HIV intervention programme with gender specific components, was perceived to impact the lives of AGYW who participated in the intervention. Although it is not possible to draw conclusions on how the intervention impacted HIV incidence from the qualitative data, identifying and understanding how the intervention is perceived by AGYW is important for the design and success of future peer led interventions that target a similar population sub group. AGYW perspectives provide important insights into the RISE Clubs intervention, demonstrating the potential impact and benefits of including gender specific components which incorporates peer support as part of combination HIV prevention interventions.

Methodology

Study Design:

The study design and research methods outlined below describe the methodology outlined in an interim analysis report¹ of the HERStory study. The qualitative methods outlined were used to collect the data which will inform the secondary data analysis in this study.

The South African Medical Research Council (SAMRC) and partners conducted an evaluation of the Global Fund Adolescent girls and young women (AGYW) Intervention, a combination HIV-prevention intervention. The evaluation employed a mixed methods study design, including qualitative and quantitative components. The primary objective of the evaluation was to determine the intervention impact on HIV incidence over a two-year period. Secondary objectives include assessing the intervention impact on the prevention of HIV risk behaviour and other sexually transmitted infections (STIs) and on the cognitions, behaviour, and social environments of AGYW. The main aim of the qualitative component was to provide an in-depth understanding of changes in risk and protective factors related to HIV acquisition among AGYW, as well as identify gaps and challenges in the intervention components and their implementation so as to revise and improve the intervention and its implementation.

This study is based on the findings from the qualitative component of the evaluation. More specifically, it focuses on the qualitative findings of the RISE Club Programme, one intervention component of the AGYW intervention programme which was funded by the Global Fund. In the qualitative evaluation, different qualitative research methods were used. The methodology included single one-time in-depth interviews (IDIs), longitudinal serial individual interviews (SIDIs), and focus-group discussions (FGDs). This paper analyzes previously collected data, specifically interview transcripts (generated by the above mentioned research methods) to explore AGYW perceptions of the RISE club intervention.

Qualitative research methods

¹ Duby et al., 2019. Impact Evaluation of the Global Fund Adolescent girls and young women (AGYW) Intervention in Ten South African Districts (Qualitative Study Component). *Interim Analysis Report*. June 2019.

Qualitative research methods are useful when the purpose of the study is to understand more about a phenomenon rather than to measure it (Green and Thorogood, 2018). Qualitative studies can complement quantitative approaches as well as providing a better understanding and interpretation of complex issues such as behaviours, attitudes and interactions in the social environments of individuals and population groups (Pope and Mays, 1995; Power, 2000). One of the strengths of qualitative research is that it helps us gain insights and perspectives from those participating in research studies. (Mack, 2005). Unlike quantitative research methods, qualitative research has the ability to provide rich, textual descriptions of the “human side” of an issue (Mack, 2005, p.1). In the context of HIV/AIDS and sexually transmitted infections (STIs) research, qualitative research methods are useful as many of the social phenomena being studied are personal, private, and sometimes considered taboo (Power, 2000).

In this component of the qualitative evaluation, qualitative research methods such as in-depth interviews (IDIs) and focus group discussions (FGDs) were selected and considered appropriate to address the research questions. Namely, by helping to unpack meanings, lived experiences, perceptions and the socio-cultural factors and contexts that influence decision- making processes and behaviour of AGYW.

Focus group discussions (FGDs)

FGDs are a form of group interview which takes advantage of group interaction and communication between participants in order to gather data (Kitzinger, J., 1995). This qualitative research technique is particularly effective when exploring people’s knowledge, perceptions and experiences in the context of a group discussion (Kitzinger, J., 1995). The notion behind the focus group method is that group processes can help people to explore and explain their views in ways that would be less attainable than in a one-on-one interview (Kitzinger, J., 1995). Specifically, group interviews can generate a breadth of ideas and opinions which extends beyond a single person’s experiences and verbal abilities (Collumbien et al., 2012). For the purpose of the HerStory qualitative evaluation, group discussions were considered appropriate as the interviewer had a series of open ended questions which were geared towards eliciting diverse

responses. The use of open ended questions is useful in exploratory research as it gives participants the opportunity to respond in their own vocabulary and from their own perspectives (Mack, 2005). It also enables the discovery of additional themes and topics to emerge as participants converse with each other, allowing participants in the group to reflect on or identify with issues raised. Although the FGDs are not necessarily best placed to generate data relating to specific individual behaviours, it is effective in helping researchers to learn about social norms of a community or sub group and the range of perspectives that exist within this community or subgroup (Mack, 2005). In this study, FGDs helped facilitate the exploration of community attitudes and perceptions, social dynamics and contextual issues relating to sexual behaviours. It also helped provide insight into the power dynamics rooted in sexual interactions, decision- making processes around sexual interactions, and the contextual factors underlying these dynamics and processes.

Interviews

In-depth interviewing is a qualitative research method that involves interviews with selected individual respondents to explore their perspectives on a particular program, situation or idea (Boyce and Neale, 2006). In depth interviews (IDIs) are a useful research technique when the researcher is interested in exploring issues or topics in detail (Pope and Mays, 1995). When compared to FGDs, IDIs are more effective in gaining a deeper insight into people's personal perspectives, experiences and feelings, especially when it involves sensitive topics that people may be reluctant to openly discuss in a group setting (Mack, 2005).

IDIs used in this study followed an interviewer- led, semi-structured approach. Semi-structured interviews are typically guided by a number of key questions that define the research area to be explored, while also allowing for the discovery of information that was not prompted by the questions (Gill et al., 2008). The flexibility of this format, compared to structured interviews, allows the interviewer and participant being interviewed to depart from questions being asked in order to pursue ideas and responses in more detail (Gill et al., 2008).

Sample selection

The sample for the qualitative component of the evaluation included direct recipients of the intervention, as well as a control group of AGYW in the intervention communities who were not engaged in intervention activities. In addition, the sample included other key informants such as parents/caregivers of AGYW, male peers and partners, school teachers, club facilitators, and community leaders in the intervention communities. Interviews were also conducted with intervention implementers (PRs), and discussions were held with programme designers.

Within each district, two schools were purposively selected from a list of schools with Clubs and the Keeping Girls in School programme. Within each district, one out-of-school Rise Club was selected from a list of Clubs provided to the research team by the Principal Recipients.

Participants of the sampled Clubs and KGIS programme were invited to participate in FGDs and in-depth interviews.

FGDs were conducted with the following stratified sample groups: members of the RISE Clubs, members of the KGIS programme, members of the Teen Parenting programme, AGYW who were not involved in any of these programmes, and male peers. In addition to being separated as per sample group FGD groups were also stratified by age (15-18 years and 19-24 years). Each FGD was conducted with 6-10 participants per group, by an experienced FGD moderator, with assistance from a note-taker.

IDIs were undertaken with selected programme participants, AGYW who did not participate in any programmes, teachers in the schools in which the Clubs and KGIS programme are based, and facilitators of the Clubs and KGIS programme, and other Global Fund programmes in the communities in which the Clubs are based, as well as community leaders. IDIs were also conducted with programme participants where/when an FGD was not possible, e.g. with 1 or 2 participants.

Study sites

The qualitative study was conducted in five purposively selected districts, to ensure that a district from each of the Principal Recipients of Global Funding was included. This included:

- Province District Sub-district
- Western Cape City of Cape Town Klipfontein, Mitchells Plain
- Mpumalanga Gert Sibande Albert Luthuli
- North West Bojanala Moretele, Moses Kotane, Madibeng, Rustenburg
- Eastern Cape Nelson Mandela Bay Sub-districts A, B & C
- KwaZulu-Natal Uthungulu Umhlathuze, Umfolozi

Sample

Sample Group	WC	KZN	MP	NW	EC	TOTAL
Intervention						
15-19	47	13	33	16	38	147
Intervention						
20-24	11	20	0	7	0	38
N/Intervention						
15-19	5	15	0	10	0	30
N/Intervention						
20-24	0	2	8	2	10	22
Total AGYW						
15-24	63	50	41	35	48	237

Sample Group	Total	City of Cape Town, Western Cape	Uthungulu, KwaZulu-Natal	Gert Sibande, Mpumalanga	Bojanala, North West	Nelson Mandela Bay, Eastern Cape
Young Women & Girls	57 IDIs	5 IDIs	17 IDIs	10 IDIs	16 IDIs	9 IDIs
15-24 years - Intervention	19	5 FGDs	3 FGDs	5 FGDs	2 FGDs	4 FGDs

recipients	FGDs					
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Participant Recruitment

A trained research assistant (RA), based at the respective district/s assisted with recruitment in the schools and in the community. For the schools, a formal letter was sent to the school principal requesting permission to conduct the study in his/her school. Upon receiving permission from the school principal, with the relevant school personnel/ teacher to liaise regarding arrangements for participants interviews/FGD. Thereafter, the research assistant liaised with the school teacher/ personnel in identifying the AGYW who participated in the intervention and arranged for time and space to conduct the research within the school.

In the community, programme implementers assisted with providing the contact details and linking researchers to the eligible/ potential participants to interview for the study. Again, the research assistant went beforehand to make contact and arrange for interviews with the participants outside of school. In instances where the RA had difficulties in securing an appointment with the potential participant/s, the experienced researcher or co-investigator took the responsibility and often had to visit the participant/s or school in person.

Participant eligibility

Inclusion criteria

- Female aged 15-24 years who have been direct recipients of the Global Fund intervention activities
- Females <18 years of age who have consented and whose parent, guardian, caregiver or household representative has consented
- Willing to provide written informed consent
- Willing to participate in this study

Exclusion criteria

- Cognitive or mental challenges (based on the assessment of the participant's ability to comprehend the study information provided)
- Unable to speak or hear
- Unable to speak English, IsiZulu, isiXhosa, Northern Sotho, Sotho, Tswana, Tsonga, Swazi, Swati, Sepedi, Afrikaans
- Not available for participation between 8 a.m. and 9 p.m.
- Participants who have been living in the district for less than two years

Data Collection

Data collection for this study took place between August 2018 and March 2019 in five of the intervention districts: City of Cape Town, Western Cape (WC); Uthungulu, KwaZulu-Natal (KZN); Gert Sibande, Mpumalanga (MPU); Bojanala, North West (NW); and Nelson Mandela Bay, Eastern Cape (EC). Included in the analysis for this paper are qualitative data from 63 in-depth interviews (IDIs) and 24 focus group discussions (FGDs) with 237 AGYW (185 who had participated in intervention components and 52 who had not participated in any intervention components).

IDIs and FGDs followed semi-structured interview guides, were conducted in the predominant languages spoken in each district, and explored AGYW's narratives of the intervention's effects on their lives. A three step process was used to translate the audio-recordings. A transcriber fluent in the language in which the interview was conducted transcribed the audio files verbatim into transcripts. The transcripts were then reviewed by the original interviewer to check for accuracy. Once this was complete, the original language transcript was translated into an English transcript. Again, this was reviewed by the original interviewer to ensure that the text was accurate and correctly interpreted. Qualitative data was analysed thematically, coded using Nvivo 12 software, and interpreted by an analysis team.

Data collection procedures

Interviews and FGDs took place in a private room/ classroom in the schools, usually after schools or during break times and lasted between 40 and 90 minutes in length (20-40min IDIs and 40-90min FGDs). Study participants were interviewed in the language of their choice (selecting from English, isiZulu, isiXhosa, seTswana, or siSwati) by an experienced qualitative interviewer, fluent in their chosen language.

Interview Procedures

Research staff (Interviewer or research assistant) confirmed eligibility and conducted the written informed consent procedures with each participant. Following the informed consent process and prior to the interview, a staff member assigned a unique participant ID number to each enrolled participant. Demographic forms were administered either before or after the IDI.

Focus Group Discussion Procedures

FGDs took approximately 2-3 hours, including provision of informed consent, and administration of demographic forms. FGDs were scheduled to ensure a common language was spoken by all participants and conducted in an appropriate meeting room that is conducive to the number of participants, privacy, and the need to audio-record the session. All participants chose a pseudonym to use during the discussion. Ground rules for conduct were discussed and described together with participants. These included a review of confidentiality requirements, etiquette, and operational issues. FGD discussions were started by the facilitator using an ice breaker. After the ice breaker, group discussions followed the topic guide. FGD guides were semi- structured, allowing opportunities for probing and exploration of spontaneously generated themes.

Data analysis

This study aims to qualitatively assess AGYW perceptions of the implementation and impact of the RISE Clubs intervention, one intervention component of the AGYW intervention programme which was funded by the Global Fund. Data analysis is focused on the qualitative findings, specifically interview transcripts that were generated from the IDIs and FGDs conducted by the

South African Medical Research Council research team during the qualitative component of the HERStory study.²

For the purpose of this study, thematic content analysis was used to analyze the data. Braun and Clarke's "six phase framework" was used to guide the analysis (Braun and Clarke, 2006). The first step of the framework included becoming familiar with the data. Familiarization with the data was achieved by reading and re-reading the transcripts and code reports generated by the research team to get a better understanding of the data. Transcripts and code reports from the IDIs and FGDs specifically relating to RISE Clubs intervention were independently read and analyzed by the first author. Step 2 involved noting and recording initial thoughts and broad themes. The IDI and FGD transcripts were read line by line, manually applying open codes to relevant data through a process of constant comparison identifying correlations, patterns and repetition of words. The 3rd step involved searching for themes which was done by grouping codes into potential themes and assessing how these themes relate back to the research question. In step 4, broad themes were reviewed and modified where necessary, establishing main themes and sub-themes, with some initial themes being eliminated. This was done by reviewing the themes in context of the entire data set, reading the data associated with each theme and considering whether the data supported the theme. The final step included a detailed analysis of each theme. The themes were summarized and interpreted in relation to the study.

Reflexivity

Reflexivity means being aware of the ways in which the researcher and research process are linked, and how this can influence findings (Mays and Pope, 2000). To minimize the effects of personal and intellectual biases, as well as personal characteristics such as age and sex, the researcher will exercise constant reflexivity. To do so she will regularly check in with her supervisors and share findings as she progresses with the study. The proximity between the

² Impact Evaluation of the Global Fund Adolescent girls and young women (AGYW) Intervention in Ten South African Districts Qualitative Study Component. Interim Analysis Report. June 2019. Health Systems Research Unit. South African Medical Research Council

researcher and researched should also be noted. No primary research was conducted by the student and as such the way in which the collected data has been shaped by the researcher is minimal. The likely impact of the researchers personal and intellectual biases is minimal as she had no involvement in the methods used to obtain the data analyzed in this study.

Selection Bias

One limitation of the study design is that measures to prevent selection bias were not explicitly addressed by the researchers. Mostly direct recipients of the intervention as well as a control group were included in the sample selection. No reference was made to broadening the sample to include participants that were invited to participate but chose not to, or those who had dropped out or did not like the program. Arguably, if this was not taken into consideration, the results of the program would be biased as the majority of respondents were those who had completed or liked the program would be more inclined to report positive impacts as opposed to those who dropped out of the intervention.

Risk and Benefits

This is a low risk study given that it does not involve primary research and data analysis will be conducted using previously collected data. As the researcher is using secondary data, it is important to recognise the quality of the data being analyzed in this paper. To ensure transparency and to highlight the validity of the secondary data being used, the researcher has clearly outlined above the study design and research methods used in the original study to collect the data. The main risk in this study involves having access to the transcripts and keeping the data confidential. To protect anonymity and confidentiality of participants, the researcher signed a confidentiality agreement with the South African Medical Research Council agreeing to safeguard the data. All transcripts are securely stored in digital hard drive that require permission to access and view folders. All data will be coded to remove personal identifiable information. Pseudonyms will be used when using quotes from participants. Data will only be stored until the completion of the data analysis. Once complete, the files will be deleted from folders on google

drive of the UCT student/researcher. The researcher will have access to the transcripts only and does not have access to any personal information of participants who took part in the original study.

Ethical Considerations

The interviewers and research assistants who participated in the qualitative study were female social scientists, trained in qualitative research methods, and on the study protocol. All participants 18 years and older provided written consent. Those younger than 18 years signed written assent and received written guardian consent for participation. Participants were provided with a transport reimbursement and refreshments were provided. The qualitative study was approved by the South African Medical Research Council Human Research Ethics Committee (reference number: EC036-11/2016), the Human Research Ethics Committee (Medical) at the University of Cape Town (reference number: REC-210108-007).

Budget and costs

There are no personal costs incurred by the researcher for the purpose of this study.

References

Boyce, C. and Neale, P., 2006. Conducting in-depth interviews: A guide for designing and conducting in-depth interviews for evaluation input.

Braun, V. and Clarke, V., 2006. Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), pp.77-101.

Chandra-Mouli, V., Lane, C. and Wong, S., 2015. What does not work in adolescent sexual and reproductive health: a review of evidence on interventions commonly accepted as best practices. *Global Health: Science and Practice*, 3(3), pp.333-340.

Chinsembu, K.C., 2009. Sexually transmitted infections in adolescents. *The Open Infectious Diseases Journal*, 3(1), pp.107-117.

Collumbien, M., Busza, J., Cleland, J.G., Campbell, O. and World Health Organization, 2012. Social science methods for research on sexual and reproductive health.

Dunbar, M.S., Dufour, M.S.K., Lambdin, B., Mudekunya-Mahaka, I., Nhamo, D. and Padian, N.S., 2014. The SHAZ! project: results from a pilot randomized trial of a structural intervention to prevent HIV among adolescent women in Zimbabwe. *PLoS One*, 9(11), p.e113621.

Dellar, R., Waxman, A. and Karim, Q.A., 2015. Understanding and responding to HIV risk in young South African women: Clinical perspectives. *South African Medical Journal*, 105(11), p.952.

Dellar, R.C., Dlamini, S. and Karim, Q.A., 2015. Adolescent girls and young women: key populations for HIV epidemic control. *Journal of the International AIDS Society*, 18, p.19408.

Dworkin, S.L. and Ehrhardt, A.A., 2007. Going beyond “ABC” to include “GEM”: critical reflections on progress in the HIV/AIDS epidemic. *American journal of public health*, 97(1), pp.13-18.

Farrall, S. (2006). What are the Policy and Theoretical Uses of Longitudinal Qualitative Research. *Papers in Social Research Methods Qualitative Series*, 11, 1–25.

Gibbs, A., Willan, S., Misselhorn, A. and Mangoma, J., 2012. Combined structural interventions for gender equality and livelihood security: a critical review of the evidence from southern and

eastern Africa and the implications for young people. *Journal of the International AIDS Society*, 15, pp.1-10.

Gill, P., Stewart, K., Treasure, E. and Chadwick, B., 2008. Methods of data collection in qualitative research: interviews and focus groups. *British dental journal*, 204(6), p.291.

Granich, R., Gupta, S., Hersh, B., Williams, B., Montaner, J., Young, B., & Zuniga, J. M. (2015). Trends in AIDS Deaths, New Infections and ART Coverage in the Top 30 Countries with the Highest AIDS Mortality Burden; 1990-2013. *PloS one*, 10(7), e0131353.
doi:10.1371/journal.pone.0131353

Green, J. and Thorogood, N., 2018. *Qualitative methods for health research*. Sage.

Gupta, G.R., 2000. Gender, sexuality, and HIV/AIDS: The what, the why, and the how. *Can HIV AIDS Policy Law Rev*, 5(4), pp.86-93.

Harden, A., Oakley, A. and Oliver, S., 2001. Peer-delivered health promotion for young people: a systematic review of different study designs. *Health Education Journal*, 60(4), pp.339-353.

Jewkes, R.K., Dunkle, K., Nduna, M. and Shai, N., 2010. Intimate partner violence, relationship power inequity, and incidence of HIV infection in young women in South Africa: a cohort study. *The lancet*, 376(9734), pp.41-48.

Karim, Q.A. and Dellar, R., 2014. Inclusion of adolescent girls in HIV prevention research—an imperative for an AIDS-free generation. *Journal of the International AIDS Society*, 17(1).

Karim, Q.A., Sibeko, S. and Baxter, C., 2010. Preventing HIV infection in women: a global health imperative. *Clinical Infectious Diseases*, 50(Supplement_3), pp.S122-S129.

Kitzinger, J., 1995. Qualitative research: introducing focus groups. *Bmj*, 311(7000), pp.299-302.

Mack, N., 2005. Qualitative research methods: A data collector's field guide

Marston, C. and King, E., 2006. Factors that shape young people's sexual behaviour: a systematic review. *The lancet*, 368(9547), pp.1581-1586.

Mays, N. and Pope, C., 2000. Assessing quality in qualitative research. *Bmj*, 320(7226), pp.50-52.

Menna, T., Ali, A., & Worku, A. (2015). Effects of peer education intervention on HIV/AIDS related sexual behaviors of secondary school students in Addis Ababa, Ethiopia: a quasi-experimental study. *Reproductive health*, 12, 84. doi:10.1186/s12978-015-0077.

Michielsen K, Beauclair R, Delva W, Roelens K, Van Rossem R, Temmerman M. Effectiveness of a peer-led HIV prevention intervention in secondary schools in Rwanda: results from a non-randomized controlled trial. *BMC Public Health*. 2012;12(1):729. doi:10.1186/1471-2458-12-729. pmid:22938717CrossRefPubMedGoogle Scholar

Murray, S.A., Kendall, M., Carduff, E., Worth, A., Harris, F.M., Lloyd, A., Cavers, D., Grant, L. and Sheikh, A., 2009. Use of serial qualitative interviews to understand patients' evolving experiences and needs. *Bmj*, 339, p.b3702.

Pettifor, A.E., Rees, H.V., Kleinschmidt, I., Steffenson, A.E., MacPhail, C., Hlongwa-Madikizela, L., Vermaak, K. and Padian, N.S., 2005. Young people's sexual health in South Africa: HIV prevalence and sexual behaviors from a nationally representative household survey. *Aids*, 19(14), pp.1525-1534.

Power, R., 2002. The application of qualitative research methods to the study of sexually transmitted infections. *Sexually transmitted infections*, 78(2), pp.87-89.

Richter, M., Erhart, M., Vereecken, C.A., Zambon, A., Boyce, W. and Gabhainn, S.N., 2009. The role of behavioural factors in explaining socio-economic differences in adolescent health: a multilevel study in 33 countries. *Social science & medicine*, 69(3), pp.396-403.

Rickert, V.I., Jay, M.S. and Gottlieb, A., 1991. Effects of a peer-counseled AIDS education program on knowledge, attitudes, and satisfaction of adolescents. *Journal of Adolescent Health*, 12(1), pp.38-43.

Salam, R. A., Haroon, S., Ahmed, H. H., Das, J. K., & Bhutta, Z. A. (2014). Impact of community-based interventions on HIV knowledge, attitudes, and transmission. *Infectious diseases of poverty*, 3(1), 26.

SANAC (2017). Let our Actions Count: South Africa's National Strategic Plan for HIV, TB and STIs 2017-2022. Page 69-70. Online at http://sanac.org.za/wp-content/uploads/2017/05/NSP_FullDocument_FINAL.pdf

Saul, J., Bachman, G., Allen, S., Toiv, N.F., Cooney, C. and Beamon, T.A., 2018. The DREAMS core package of interventions: a comprehensive approach to preventing HIV among adolescent girls and young women. *PLoS One*, 13(12), p.e0208167.

Scott-Sheldon, et al. (2011). Efficacy of behavioral interventions to increase condom use and reduce sexually transmitted infections: A meta-analysis, 1991 to 2010. *Journal of Immune Deficiency Syndromes*, 58: 489–498

Scott-Sheldon, L.A., Carey, M.P. and Carey, K.B., 2010. Alcohol and risky sexual behavior among heavy drinking college students. *AIDS and Behavior*, 14(4), pp.845-853.

Sharp, P.M. and Hahn, B.H., 2011. Origins of HIV and the AIDS pandemic. *Cold Spring Harbor perspectives in medicine*, 1(1), p.a006841.

Simoni, J. M., Nelson, K. M., Franks, J. C., Yard, S. S., & Lehavot, K. (2011). Are peer interventions for HIV efficacious? A systematic review. *AIDS and behavior*, *15*(8), 1589–1595. doi:10.1007/s10461-011-9963-5

Sumartojo, E., 2000. Structural factors in HIV prevention: concepts, examples, and implications for research. *Aids*, *14*, pp.S3-S10.

Swartz, S., Deutsch, C., Makoae, M., Michel, B., Harding, J.H., Garzouzie, G., Rozani, A., Runciman, T. and Van der Heijden, I., 2012. Measuring change in vulnerable adolescents: Findings from a peer education evaluation in South Africa. *SAHARA-J: Journal of Social Aspects of HIV/AIDS*, *9*(4), pp.242-254.

Tolli, M.V., 2012. Effectiveness of peer education interventions for HIV prevention, adolescent pregnancy prevention and sexual health promotion for young people: a systematic review of European studies. *Health education research*, *27*(5), pp.904-913.

Visser, M.J., 2007. HIV/AIDS prevention through peer education and support in secondary schools in South Africa. *Sahara-J: Journal of Social Aspects of HIV/AIDS*, *4*(3), pp.678-694

UNAIDS A. Trend of New HIV Infections 2018. Trend in New Infections: Eastern, Southern, Western, Central Africa by Sex]. Available from: aidsinfo.unaids.org.

UNAIDS. Fact sheet July 2017. 2017 Jul; <http://www.unaids.org/en/resources/fact-sheet>
Available at https://www.unaids.org/sites/default/files/media_asset/UNAIDS_FactSheet_en.pdf

UNAIDS. UNAIDS report on the global AIDS epidemic 2013. Geneva, Switzerland 2013.
Available:

http://www.unaids.org/en/media/unaids/contentassets/documents/epidemiology/2013/gr2013/UNAIDS_Global_Report_2013_en.pdf.

UNAIDS. South Africa Country Fact Sheet. 2018. Available:
<https://www.unaids.org/en/regionscountries/countries/southafrica>

UNAIDS. Global HIV & AIDS statistics — 2019 fact sheet. Available:
<https://www.unaids.org/en/resources/fact-sheet>

Appendices

Ethics Approval SAMRC Human Research Ethics Committee

HerStory Interview Guides and Consent forms

Part B: Literature Review

Introduction

South African adolescent girls and young women (AGYW) aged 15-24 are experiencing some of the highest HIV prevalence in the world (UNAIDS, 2019). There is a critical need to meet the HIV prevention needs of AGYW and prevent an increase in new infections (Dellar et al., 2015). Designing and testing preventative interventions for adolescents allows for a longer timespan in which to have a positive impact on their health (Salam et al., 2014). But despite specific calls by the South African government for AGYW to be “singled out for extraordinary effort” (SANAC 2017, p.9), there is little consensus about how best to prevent HIV among youth (Harrison et al., 2010).

Not only is there a complete mismatch between the number of prevention interventions that have been designed and tested for youth compared to the HIV burden in this demographic of the population (Michielsen et al., 2010), no single HIV prevention solution has ever become available (Wilsen and Halperin, 2008). In recent years combination HIV prevention or multi-component HIV prevention packages have been promoted as the next generation of HIV prevention science that has the potential to curb the HIV epidemic (UNAIDS, 2019; Kurth et al., 2011). But designing and implementing the optimal combination of HIV strategies and assessing its combined effect on intended beneficiaries remains a considerable challenge for researchers (Kurth et al., 2011).

Given the severity of the epidemic in South Africa and HIV incidence continuing to disproportionately affect women aged 15-24, the development of interventions specific to the South African context and for AGYW is an urgent policy and research priority (Ross et al., 2006). For international organisations such as the Global fund, South Africa is one of the countries of interest, with signed grants of over \$300 million in the last 5 years³. Under the

³ The Global Fund as described on their website is “ a partnership designed to accelerate the end of AIDS, tuberculosis and malaria as epidemics. As an international organization, the Global Fund mobilizes and invests more than US\$4 billion a year to support programs run by local experts in more than 100 countries. In partnership with

current grants, interventions with a particular focus on AGYW have been introduced. One such example is the RISE Club Programme, one component of a combination HIV intervention designed for AGYW, and the focus of the study that follows.

Review objectives

This literature review is divided into 3 main sections and aims to: critically examine the vulnerability and susceptibility of AGYW to HIV infection- focusing on the different factors that make AGYW uniquely vulnerable to acquiring HIV, explore the history and relevance of combination HIV prevention approaches and lastly assess recent evidence of combination HIV prevention interventions designed for South African youth.

This all provides important background and context for the study that follows, which explores the perspectives of AGYW and their experience of participating in a combination HIV prevention intervention in South Africa.

Methods

The search strategy included primary electronic searches on Google Scholar, PubMed and Scopus. The Joint United Nations Programme on HIV/AIDS (UNAIDS), World Health Organisation (WHO) and other governmental websites were searched for discussion papers, fact sheets and other relevant information. Reference lists identified by the search strategy were also searched and information included where appropriate.

Search terms included the following words, with different variations used.

Topic	Variations
Population sub group:	Youth, young women, adolescent girls, adolescents, girls, aged 15-24, 15-24 years

governments, civil society, technical agencies, the private sector and people affected by the diseases, we are challenging barriers and embracing innovation”. See: <https://www.theglobalfund.org/en/strategy/>

	old, school-going adolescents, adolescence, gender specific, young people
Intervention	HIV prevention intervention, HIV infection, combination intervention, preventing HIV, intervention implementation, prevention strategies, combining prevention strategies, combined intervention, structural, biomedical, behavioural, behaviour, comprehensive, HIV infection, risk, sexual, reduction, reducing HIV acquisition, HIV risk factors, HIV infection risk, HIV epidemic, AIDS,
Other keywords	Sexual risk reduction, sexual debut, condoms
Location	South Africa, Southern Africa, rural South Africa
Theory	Ecological framework, ecological theory
Research design	Qualitative design, qualitative research

Table 1: search strategy

Source: author

Inclusion criteria

Selection criteria of intervention studies included for analysis in part 3 of the literature review: 1) intervention was delivered in a geographical community in South Africa, in 2015 or after (since the HIV prevention landscape is so dense and dynamic, the time period was narrowed to the last 5 years); 2) adolescent girls and/or young women (AGYW) were included in the target population using a definition of 15-24 years of age; 3) at least some content referred to the prevention of HIV/AIDS; 4) more than 1 intervention component was referenced (as opposed to

single component interventions only); 5) the intervention was aimed at affecting behavioural and/or structural changes (not biomedical changes only) leading to a decrease in HIV incidence or related risk behaviours among South African AGYW; 4) the content and delivery methods were described including structure, content and theoretical framework; 5) the information was available in English and published between January 2015 and Jan 2020.

Information from these sources as well as published reports were used to review and analyze how and where interventions were delivered (eg. in school, out of school, communities), who delivered the intervention (eg. peer led, facilitators, adult) whether it had relevance to the South African setting and the types of HIV prevention strategies used and/or combined together. The limited scope of this literature does not allow for in-depth review of specific intervention methods such as peer-led HIV preventions or detailed analysis of all recent HIV prevention interventions implemented in South Africa.

Vulnerability and susceptibility to HIV infection: Adolescent girls and young women

Since the peak of the HIV epidemic in 1997, substantial progress has been made with the number of new HIV infections reduced by as much as 40% (UNAIDS, 2019). Despite this achievement, the number of people acquiring HIV every year still remains exceptionally high (Baxter and Karim, 2016). The scale up of HIV testing, treatment and prevention efforts have not been sufficient to overcome the high HIV incidence among vulnerable population groups in many parts of the world (Karim, 2012). In Africa, the HIV epidemic continues to disproportionately affect young women, with incidence rates up to 8-fold higher than men in similar age groups (UNAIDS, 2010).

At the center of the global epidemic is South Africa that currently has the largest HIV epidemic in the world (AVERT, 2019). Comprising more than one quarter of all new infections are adolescent girls and young women (AGYW) aged 15-24 years old (Dellar, Dlamini and Karim, 2015). In 2017, there were a reported 88,400 new infections amongst youth aged 15-25 years old

in South Africa (Simbiya et al.,2019). The highest HIV-incidence (1.5%) was amongst young women aged 15–24 years compared to 0.5% of young men their own age.

Previous studies point to many different factors contributing to the increased rate of HIV acquisition amongst AGYW, including biological, structural and social factors (George et al., 2020). Evidence suggests that biologically young women are more susceptible to acquiring HIV. Compared to men, women have (mostly) been found to be at higher risk of HIV transmission during unprotected vagina intercourse (Shisana et al., 2009). For AGYW this risk is further compounded by their biological development, specifically their vaginal tracts still developing and tearing more easily during sexual activity (Shisana et al., 2009). Other biological factors such as the presence of sexually transmitted infections (STIs), genital inflammation and abnormal vaginal flora have also been studied and attributed to the susceptibility of young women to HIV (Dellar, Dlamini and Karim, 2015; Taha, 1998; Muula, 2008; Masson et al., 2015; Shishana, 2012).

Structural factors further facilitate the acquisition of HIV amongst AGYW. These factors include (but are not limited to) poverty, gender based violence, transactional relationships and age-disparate relationships and educational attainment (Dellar, Dlamini and Karim, 2015). Research has shown that girls who cannot access an education are twice as likely to acquire HIV compared to girls who have been educated (UNAIDS, 2019). Transactional sex⁴ has received considerable interest in health research in South Africa, being increasingly cited as a contributing factor that elevates the risk of HIV acquisition among young women (Dunkle et al., 2004, Wamoyi et al., 2016; Ranganathan et al., 2016). In addition to the transactional aspects of sexual relations that can be risky for young women, other overlapping factors such as sexual intercourse under the influence of drugs or alcohol (Norris, Kitali and Worby et al., 2009; Watt et al., 2012) as well as multiple and/or concurrent sexual partners has been shown to increase young women’s vulnerability to HIV infection (Harrison, Cleland and Frohlich, 2008). In South Africa there is a

⁴ While there has been mixed consensus on the definition of transactional sex, we draw on Ranganathan et al. (2016, p) definition of transactional sex as “non non-marital sexual relationship where men and women exchange sex for, or in anticipation of, material possessions or favours”.

high prevalence rate of multiple partners among young people. Survey data shows that among adolescents who had ever had sex, that the national prevalence for having more than one partner in the past 3 months was 58%, which increased with the age and Grade in school (Reddy et al., 2013). Considerably more 18 olds (67%) compared to 14 year olds (36%) had more than one sexual partner in the past 3 months when surveyed (Reddy et al., 2013).

Age disparate relationships, where young women partner with older men have also consistently been associated with HIV infection and shown to substantially increase women's risk of acquiring HIV (MacPhail, Williams and Campbell, 2002; Pettifor et al., 2005; Beauclair and Delva, 2013). This can be attributed to the increased likelihood of older men being HIV positive (Shishana et al., 2009; De Oliveira 2017). In a study by Evans et al. (2017), findings showed that men that were in relationships involving women 15–24 years old, and were on average 5-9 years older, were significantly more likely to be HIV-positive. Similarly De Oliveira et al. (2017) found that partnerships between young women and older men were a key feature of sexual networks driving HIV transmission.

Additionally, gender based violence (GBV) is pervasive in South Africa. GBV has been linked to HIV risk and infection of young women in various ways including through forced sex such as rape or unprotected sex with HIV infected men (Andersson, Cockcroft and Shea, 2008). GBV has been attributed to as much as 20-25% of new HIV infections in young women (Van Damme et al., 2008; Feucht et al., 2007). Intimate partner violence as well as other factors such as lower access to education and minimal economic interdependence further limit the ability of young women to negotiate safe sex and maintain control over their own bodies (UN, 2017).

Research has shown that adolescents with abusive or violent partners are more likely to engage in HIV risk behaviour including initiating early sexual debut, drug abuse and multiple sexual partners (Idele et al, 2014; George et al, 2020). Early sexual debut (before the age of 15) puts the health of adolescents at risk as it allows more opportunities over time to be exposed to HIV (Idele et al., 2014). It has also been associated with AGYW getting married and pregnant at a

young age which negatively impacts the ability to go to school and limits other developmental opportunities (Idele et al., 2014). In the South African context, young women have been found to acquire HIV around five to seven years earlier than young men, often synonymous with sexual debut (Dellar et al., 2015). Other studies have found associations between violence and increased HIV risk. Dunkle et al., (2004) conducted a cross sectional study of women attending antenatal clinics in South Africa and found women with violent or controlling male partners to be at increased risk of HIV infection.

A multitude of other factors including peer group norms, perceived gender roles and male dominated relationships, poor communication skills, lack of sexual and reproductive health knowledge, lack of adult role models and a lack of recreational facilities have all been cited as influencing factors of HIV risk behaviour (Visser, 2007). As is evident by the myriad of factors presented in the literature, the epidemic is both complex diffuse, with multiple vulnerability and HIV risk factors which can exist individually and also have the potential to converge and act synergistically (Piot, 2008). What is also apparent is that current efforts to address these factors are not enough, as the epidemic continues to extend its reach across the world. According to the latest statistics, UNAIDS estimates that globally 37.9 million (32.7 million–44.0 million) are living with HIV. East and Southern Africa bears more than half of the global burden of infection (UNAIDS, 2019; Dellar et al., 2015). In 2018 alone, 800,000 new HIV infections were reported (UNAIDS, 2019).

Combination HIV prevention: history and relevance

To date, no single HIV prevention solution has ever become available. Data has shown that no epidemic is the same within and between countries, and no single prescription can solve the multitude of diverse epidemics (Wilsen and Halperin, 2008). Based on this realisation, the scientific and programmatic communities started to embrace a more comprehensive prevention approach (Lippman, 2014). Combination prevention or “combining” prevention interventions efforts in a “multi pronged” approach has been presented as an alternative to single prevention strategies (Piot, 2008).

More specifically, combination prevention has been coined as a prevention approach which “combines” a mix of biomedical, behavioural and structural interventions to meet the needs of specific individuals and communities (UNAIDS, 2010). It is argued that when intervention components are offered together that prevention efforts are likely to be more effective at meeting needs of diverse populations due to the synergies from complementary approaches (Lippman et al., 2014).

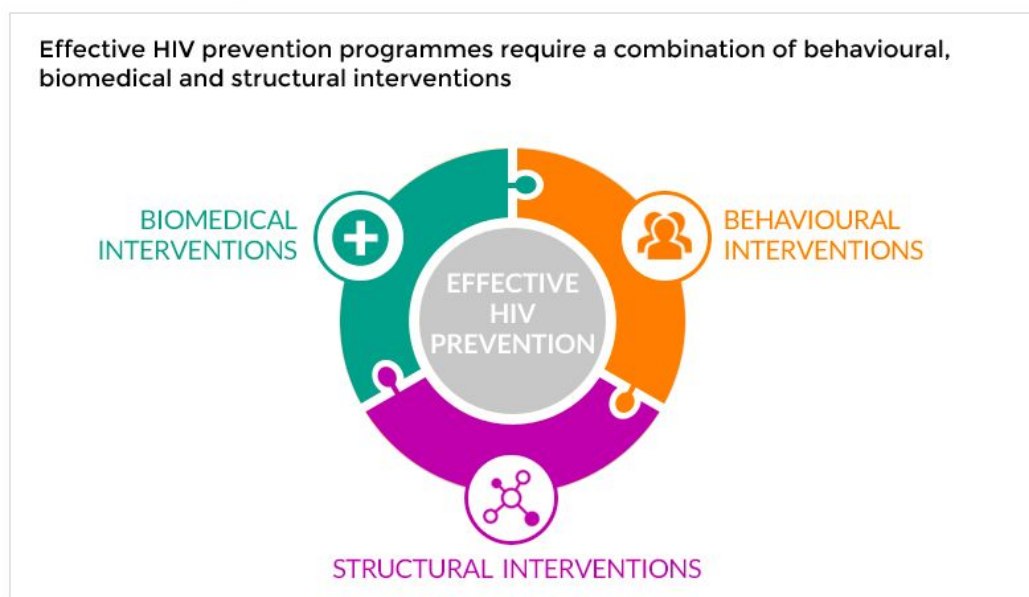


Figure 1. Combination HIV prevention

Source: Avert.org

Condoms for example, continue to be at the centre of combination HIV prevention efforts and are seen as one of the most important prevention components in reducing the risk of HIV transmission (Mash, Mash and De Villiers, 2010; UNAIDS, 2016). South Africa has built the world’s largest condom programme, with the national Department of Health freely distributing condoms as part of its national HIV prevention programmes since 1995 (Beksinska, Smit and Mantell, 2012; Avert, 2019). According to the Western Cape Government (WCG), the national government supplied more than 800 million condoms in 2015 and upped this quota to 1 billion in

2016 (WCG, 2015)⁵. But despite these prevention efforts, inconsistent condom use, particularly amongst adolescents remains commonplace in South Africa. The 2002 South African national youth risk-behaviour showed that only 29% of adolescents always used a condom during sexual intercourse. This only increased slightly to 31% in the 2008 survey (Reddy et al., 2013).

Considerable literature suggests that inconsistent condom use and low uptake of condom use can be attributed to multiple factors which influence the ability of people, especially young women to use condoms. This includes but is not limited to male dominant relationships and unequal gender power dynamics, low condom use self efficacy and mistrust by partners (MacPhail and Campbell, 2001; Sayles et al., 2006; Varga, 1997). The association between illicit sex and condom use often results in feelings of shame and the refusal to use condoms within relationships and marriages (Sinding, 2005). Education also plays a role in condom uptake, with statistics in South Africa showing that only 16% of women without an education reported using a condom in the last instance they had sex, compared to 63% of women who had a higher education (DOH, 2003). Knowledge about how to prevent HIV transmission has also been found to be very low. Concerningly, when surveyed only 45.8% of women and men aged 15–24 years old correctly identified ways of preventing the sexual transmission of HIV. (UNAIDS, 2019). As the evidence suggests, a combination of strategies are needed to tackle individual risk factors and the structural factors that influence condom use.

Combination HIV prevention efforts that include but are not limited to condom distribution, have shown positive results. A RCT comparing two HIV prevention interventions to promote female condom use among university going women KwaZulu Natal, South Africa showed positive results (Mantell et al., 2015). Using a combination approach, female students were given female condoms (FC) and offered two 4-5 hour sessions which covered HIV and pregnancy prevention, partner negotiation and FC insertion skills. Other topics covered also included guidance to deal with refusal and potential violence in sexual encounters (Mantell et al., 2015). Findings showed a

⁵ More more information see the Western Cape Government website:
<https://www.westerncape.gov.za/general-publication/choice-condoms-go-max>

decrease in sexual risk behavior among women including unprotected sex and an increase in FC-protected sex and number of FCs used (Mantell et al., 2015).

History of combination interventions

The literature suggests that the concept of combining interventions is not a new one, with many researchers and implementers recognizing the need for a combination of diverse prevention strategies since the early 1980's. Parker (1987) undertook a detailed examination of the AIDS epidemic in Brazil, highlighting the need for a cross cultural understanding of the disease, with more culturally appropriate responses to the disease (not just biomedical ones). In the 1990's, the first director of the WHO's Global AIDS Programme Jonathan Mann and his co-author Tarantola emphasized the need to adapt a revised approach and analysis of HIV prevention, citing the lack of coherent action that directly addresses social determinants of health as "the fundamental deficiency in HIV/AIDS and control" (Mann and Tarantola, 1996, p.33). Mann advocated for the coupling of interventions at the personal, program related and social levels, highlighting that failure to do so will limit successful outcomes (Mann and Tarantola, 1996, p.33). In the early 2000's, the Bill and Melinda Gates Foundation convened the Global HIV Prevention Working Group, a panel of 50 leading public health experts, including biomedical and behavioural researchers, doctors and people affected by HIV/AIDS (Global HIV Prevention Working Group, 2002). In a report titled "HIV Prevention in the era of expanded treatment access", the group brought to the fore the need for combination HIV prevention stating that "effective prevention involves a series of strategies that achieve maximum impact when pursued in combination" (Global HIV Prevention Working Group, 2002).

Between 2005-2010, UNAIDS published a HIV policy position paper (UNAIDS, 2005) as well prevention guidelines (UNAIDS, 2007) referencing the need for the implementation of a combination of policies and programmes to reduce HIV, labeling this approach "comprehensive" HIV prevention. In 2009, combination HIV prevention was top of the agenda for the UNAIDS Prevention Reference Group who met and agreed upon a uniform definition of combination

prevention programmes.⁶ In the same year the National Institutes of Health (NIH) established a research initiative called the Methods of Prevention Package Program⁷, with the aim to “encourage collaborations between behavioral and biomedical clinical scientists, epidemiologists, mathematical modelers, and clinical trial design specialists to develop new research strategies and methodologies that will facilitate the design and testing of combination HIV prevention interventions” (NIH, 2009). In 2015, UNAIDS positioned combination packages of HIV prevention interventions as a means to meet 2020 and 2030 targets to reduce HIV infections globally to fewer than 500 000 and end the HIV epidemic as a public health threat (UNAIDS, 2015).

As outlined above, the different intervention components of combination prevention are not necessarily new but efforts to bring together and engage researchers, implementers, communities and people living with HIV was less common until more recently. Today, the question of what combination of strategies and interventions will be most effective for different communities remains a key concern. Building the ideal combination prevention intervention that is effective, acceptable and appropriate remains a challenge for researchers. Evidence suggests that answering this question, and ensuring the success of prevention programs requires taking into consideration and understanding each different community’s social, cultural, epidemiological, political and economic resources (Lippman, 2014). Leading the way, UNAIDS made this the tenant of their intensified prevention focus in the 2000’s, publishing guidelines encouraging participatory consultative processes with “know your epidemic and your current response” as a

⁶ In December, 2009, the UNAIDS Prevention Reference Group agreed that combination prevention programmes are defined as “... rights-based, evidence-informed, and community-owned programmes that use a mix of biomedical, behavioural, and structural interventions, prioritized to meet the current HIV prevention needs of particular individuals and communities, so as to have the greatest sustained impact on reducing new infections. Well-designed combination prevention programmes are carefully tailored to national and local needs and conditions; focus resources on the mix of programmatic and policy actions required to address both immediate risks and underlying vulnerability; and they are thoughtfully planned and managed to operate synergistically and consistently on multiple levels (e.g. individual, relationship, community, society) and over an adequate period of time. They mobilize community, private sector, government and global resources in a collective undertaking; require and benefit from enhanced partnership and coordination; and they incorporate mechanisms for learning, capacity building and flexibility to permit continual improvement and adaptation to the changing environment..” (UNAIDS, 2010, p.8)

⁷ For more information on the Methods of Prevention package program see [:https://grants.nih.gov/grants/guide/rfa-files/RFA-AI-10-005.html#PartII](https://grants.nih.gov/grants/guide/rfa-files/RFA-AI-10-005.html#PartII)

starting point for combination prevention planning (UNAIDS, 2007). Know your epidemic is the basis for matching and prioritizing the most effective and appropriate prevention responses according to specific epidemic settings and populations (UNAIDS, 2007). Central to this is the idea that countries should focus on the epidemiology of HIV infection and the social, behavioral and environmental conditions that can impact access to HIV information and services (UNAIDS, 2007).

For many years, structural factors associated with HIV risk and structural HIV prevention efforts were far less researched or utilized, as focus has been directed more at individual level behavioural and biomedical approaches (Sumartojo et al., 2000). Proponents of combination HIV prevention see structural interventions as a core component of HIV prevention strategies, recognizing that it could facilitate more enabling environments for HIV programmes (UNAIDS, 2010; Harris et al., 2015;). The design and implementation of combination HIV prevention rests on ecological thinking and perspectives, which emphasizes both individual and contextual systems (McLaren and Hawe, 2005.) In doing so, there is a recognition of the importance of the social and structural factors that affect the transmission and acquisition of HIV (Baral et al., 2013). Emphasis is placed on how an individual's knowledge, attitudes and behaviour is shaped by their environment, not independent of it (Mann et al., 1993; Baral et al., 2013). The social ecological model is a useful way of visually representing the complex associations between individual practices, the social and structural factors as well as the physical environment on individual behaviour (see figure 2; Baral et al, 2013).

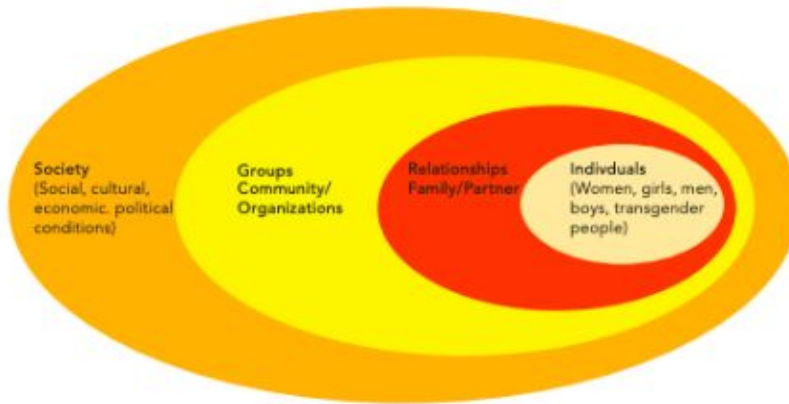


Figure 2. Social Ecological Framework showing how individual behaviour is impacted by relationships, community and other social factors

Source: Joint United Nations Programme on HIV/AIDS, 2010

HIV Prevention for AGYW

Despite the urgent HIV prevention need of AGYW, there is a lack of evidence based interventions to reduce their risk (Dellar, Dlamini and Karim, 2015). In reviewing the literature there is a noticeable mismatch between the number of attempts to design and implement combination prevention interventions for youth and the considerable HIV burden among young people (Michielsen, 2010).

Adolescents are often excluded from research studies (and as a result the potential benefits of research) due to uncertainty regarding ethics and consent, where protection of participants from research is often valued over inclusion in research (Santelli et al., 2017). Other challenges arising in the literature include debates between public health benefits versus political, religious, and cultural tensions relating to sex and sexuality (Mantell et al., 2006). In the sphere of HIV prevention, this is most evident with the abstinence versus condom debate where young girls and women are frequently denied information and access to SRH services and care including condoms (WHO, 2004). Conclusive evidence from extensive research has shown that with correct and consistent use, male condoms are effective (up to 90% effective) in limiting HIV

transmission (WHO, 2004; Holmes, Levine and Weave, 2004; Hearst and Chen, 2004). Yet, scientific evidence is not always enough to protect and promote AGYW health.

Some of the biggest funders of HIV prevention programs around the world, such as the U.S government, long viewed “abstinence until marriage” as a central component of HIV prevention (Boyer, 2018). Since 1996 over \$2 billion has been spent on abstinence only programs (Boyer, 2018). For many years, this directly impacted HIV prevention efforts in countries such as South Africa, where the U.S President’s Emergency Plan for AIDS Relief (PEPFAR) had required (since 2003) at least 33% of spending to be on abstinence only until marriage programs (Santelli et al, 2017). Additionally, HIV prevention programs funded from PEPFAR also had to follow specific guidance on ABC (abstinence, be faithful and condom use) up until 2008 (Santelli et al, 2017). This stood in contradiction to scientific evidence which has shown for many years that such programs do not significantly impact sexual behaviours, the number of sexual partners or the age of sexual debut (Dailard, 2003; Chin et al., 2009). In the South African context (as elsewhere), theoretically abstinence is fully protective against HIV and STIs, but in reality the statistics show that this approach will fail to delay the onset of sexual intercourse. Findings from a study among South African youth revealed that 39% of youth who had ever had sex reported having intercourse before the age of 16 (Zuma et al., 2010).

Evidently, examples like this show how conservative political rhetoric and ideologies, funding agendas and a lack of evidence based approaches can and have drastically impacted AGYW health and their ability to benefit from HIV prevention.

The way forward

As stated by Kurth et al. (2011, p.72) “combination HIV prevention represents the next generation of HIV prevention science”. Arguably, combination prevention approaches can offer a new and better way to reach young people living with, and at risk of acquiring HIV. This is because by its very definition, combination prevention requires engagement of a diverse group of stakeholders, which can and should include a space for dialogue and interaction with vulnerable

populations such adolescents girls and young women (UNAIDS, 2010). Critics of this approach argue that participatory approaches that are not grounded in evidence and based on unproven structural, social, political or economic factors, can detract attention from more immediate causes of HIV infection (Wilsen and Halperin, 2008). But, what is clear is that prevention efforts can no longer focus only individual risk, and that taking into consideration local social and structural contexts as well as the behavioural and biological factors that make AGYW vulnerable to HIV infection is needed (Dellar, Dlamini and Karim, 2015).

Designing optimal combination packages for AGYW can include many different prevention strategies including HIV testing, ART, STI treatment, medical male circumcision, needle exchange programs, microbicides and other structural components such microfinance loans, skills and empowerment training (Kurth et al., 2011). By carefully reviewing previous interventions aimed at AGYW (in South Africa specifically) and looking at the evidence, useful insights can be gained and contribute to efforts which are underway to test, refine and develop new combination intervention approaches for vulnerable populations (Dellar, Dlamini and Karim, 2015).

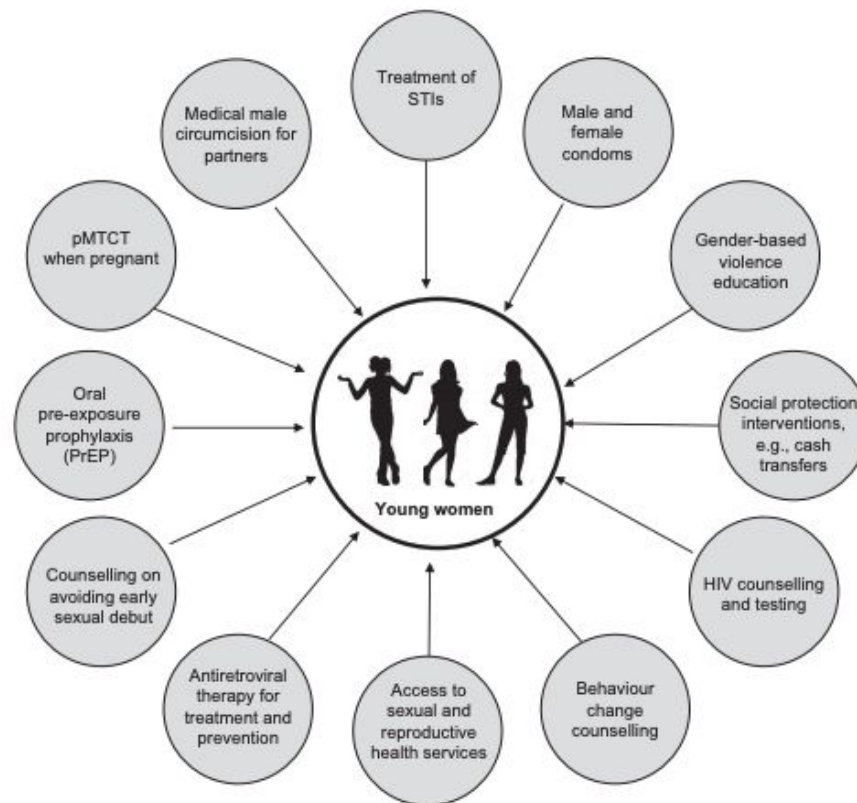


Figure 3: Examples of prevention options that could be used in combination to prevent HIV infections in young women

Source: Baxter, C. and Abdool Karim, S., 2016. Combination HIV prevention options for young women in Africa. *African Journal of AIDS Research*, 15(2), pp.109-121.

What has been done: Interventions for AGYW in South Africa

Broadly speaking, many of the interventions that have been implemented to reduce the prevalence of HIV among adolescents have been complex and comprised of different intervention components (Ross et al., 2006). This has commonly included in-school teacher or peer education and out-of-school teacher or peer education. In the context of HIV/AIDS prevention, peer education interventions are some of the most common employed prevention strategies. Research has shown that peer education programmes can result in positive outcomes for AGYW, resulting in increased knowledge about HIV/AIDS and positive behaviour changes

such as using condoms to prevent HIV infection and delaying sexual debut (Chandra-Mouli, et al., 2015; Michielsen et al., 2012; Visser, 2007). It is argued that when implemented well, peer education interventions can offer safe spaces for adolescents to discuss issues and topics that are not sufficiently addressed elsewhere such as in their homes, communities and relationships (Swartz et al., 2012). But despite remaining a popular HIV prevention and health promotion strategy, the efficacy and positive impacts of peer education programmes remain disputed. Some researchers emphasize that there is not enough evidence to suggest the effectiveness of peer education programmes (Tolli., 2012, Harden et al., 2001). Dellar et al. (2015) argue that very few peer led studies have been evaluated and most fail to demonstrate efficacy in reducing HIV incidence or long-lasting behaviour change among adolescents.

Mentoring programs, condom distribution and promotion within schools, access to voluntary HIV testing and counselling empowerment and skills based training for AGYW have also been implemented (Ross et al., 2006). These components have been targeted at different societal levels including at the individual, familial, community levels. In South Africa, many different HIV preventative interventions have been implemented in school settings (Visser, 2007). Some examples include sexual and reproductive health education, skills training and educational drama to increase HIV/AIDS awareness (Harvey, Stuart and Swan, 2000; Visser, Shoeman and Perold, 2004). Interventions implemented outside of school settings include microfinance and financial literacy programs (Pronyk et al., 2008; Hallman et al., 2007)

In a broader search of HIV prevention for youth in South Africa, there are surprisingly few examples of interventions that extend beyond single component strategies in South Africa. While prevention interventions showed reductions in HIV risk acquisition, most intervention studies only addressed single determinants of acquisition or had single component prevention strategies (Smith et al., 2008; Mantell et al., 2006; Carnell et al. 2006; Jewkes et al, 2008; Wegner et al., 2008). As such, they did not meet the criteria of inclusion for this review.

Due to the limited scope of this review, the time period was restricted to the last 5 years with a focus on analyzing on the most examples recent combination prevention interventions that have been designed for AGYW and implemented in South Africa. While there were other examples of combination HIV interventions designed for youth in South Africa (Pronyk et al., 2006) they did not meet the inclusion criteria. Their findings are worth alluding to. In the case of the IMAGE study⁸, a poverty-based microfinance program and gender/HIV curriculum were combined in an effort to see to reduce vulnerability to HIV and intimate partner violence for women (some of which were within the 15-24 year age group). The findings showed that although the intervention did not directly affect HIV risk behaviour (such as unprotected sexual intercourse) it did reduce intimate partner violence by over 50% in some of the cohorts (Pronyk et al., 2006). This shows that designing interventions with combined structural and behavioural components is possible within South African context and can influence and alter complex HIV risk factors which are known to make women more susceptible to HIV acquisition (Dunkle et al., (2004)).

Most recently, a large scale combination HIV intervention has been implemented in South Africa with promising results. PEPFAR has dedicated considerable resources to positively impact the lives of adolescent girls and young women. One way that this is happening is through the DREAMS (Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe partnership) partnership, with an aim to reduce HIV risk and lower HIV incidence among AGYW aged 15-24 (Saul et al., 2018). DREAMS is one of the first examples of multi-component interventions that has been implemented at scale (Chimbindi et al., 2018). As is evident in figure 4, DREAMS provides a combination of HIV prevention packages specifically designed to address AGYW's vulnerability to HIV infection (Chimbindi et al., 2018).

⁸ Intervention with Microfinance for AIDS and Gender Equity

	Package level	Package category	Target group(s)	Description of activities & examples
Individual level	Empower AGYW and reduce their risk	HIV Testing Services	AGYW & male partners	HIV testing; linkage to care & ART if positive, or linkage to other DREAMS prevention if negative
		Social asset building	AGYW	Build social skills and networks; connect AGYW with peers & adults, for information, emotional & material support
		Expand contraceptive mix	AGYW	Promote use of modern contraception, dual methods alongside condoms, to reduce unplanned pregnancy and school drop-out
		Condom promotion & provision	AGYW & male partners	Increasing consistent use & availability, e.g. through condom distribution, adolescent-friendly SRH services
		Post-violence care	AGYW experienced/ at risk for violence	Youth-friendly screening & care for intimate partner violence/ violence against children, PEP
		PrEP *selected countries	AGYW at highest risk of acquiring HIV	Targetted provision of PrEP, linkage to support services
Contextual level	Strengthen families	Social protection	AGYW & parents/guardians	Cash transfers, educational subsidies, combination socio-economic approaches e.g. savings groups
		Parenting/caregiver programmes	AGYW & parents / care-givers of AGYW	Parenting programmes on adolescent sexual/risk behaviours & protection from violence
	Mobilise community for change	School-based HIV prevention	AGYW & boys in schools	HIV & sex education, violence prevention education in schools
		Community mobilisation & norms change	AGYW, boys & men, broader communities	Community-based HIV and violence prevention programmes, social/gender norms change & gender-related messaging
Reduce risk in male sex partners	Characterisation of male sex partners to target interventions	Sexual partners of AGYW	Target highly effective HIV prevention, care and treatment interventions. Develop services men are more likely to use. Research & characterise 'typical' partners of AGYW.	

Figure 4: DREAMS multi component combination package

Source: Gourlay et al., 2019

Central to the DREAMS prevention strategy is adopting a multi sectoral approach to get buy in from different stakeholders, integrating interventions into existing government supported systems and layering of services which means that each AGYW receives not one, but multiple interventions from the core intervention package (Gourlay et al., 2019; Saul et al., 2018). The interventions received by AGYW are tailored according to their age, individual experience and the context in which the intervention is taking place (Chimbindi, 2018). In South Africa, roll out of interventions began in 2016 in uMkhanyakude, rural KwZulu-Natal (KZN), with 2184 AGYW aged 13–22 years enrolled in 1 year of DREAMS implementation (Gourlay et al., 2019). The majority of AGYW beneficiaries accessed multiple components of the core package and in uMkhanyakude, school-based HIV and violence prevention programs were the most accessed intervention components overall (Gourlay et al., 2019).

Interestingly, an unintended consequence of the intervention was hostility and tensions within certain communities based on the perception that young men were also at high risk but being intentionally excluded from the intervention (Chimbindi, 2018). Other challenges included

difficulties in scaling elements of the intervention, particularly structural interventions to address social norms and violence in communities (Chimbindi, 2018).

In a study exploring perceptions and experiences of AGYW who had participated in DREAMS in KZN (Zuma et al., 2018), findings illustrated many challenges faced by recipients themselves. Most of the DREAMS intervention activities were conducted in schools, with AGYW no longer in school (aged 22-24) unaware and unable to attend as a result, with reports of feeling excluded (Zuma et al., 2018). Other barriers included the inability to participate due to refusal from their parents and timing constraints for older students who were doing exams. While the intervention was positively received by most AGYW, not one single study participant reported finishing curriculum based and parent-caregiver interventions, citing different reasons such as lack of transport and family support (Zuma et al., 2018). These findings show that scaling multi-component combination prevention interventions is feasible but consideration needs to be given to how AGYW are reached and included in interventions, especially those who are no longer in school. Additionally, consulting intervention recipients on how the intervention is received and trying to qualitatively understand the challenges experienced in accessing and accepting the prevention components could be beneficial for the successful implementation of future “layers” of interventions.

Conclusion

The HIV epidemic is diffuse, complex and dynamic, with many different risk factors and routes of transmission. Given that there is no single HIV prevention intervention that is likely to stem HIV epidemics in communities, the evidence clearly shows a need for multiple HIV prevention interventions or a combination of prevention strategies (Baxter and Karim, 2016; Change et al., 2013). While much attention has been paid to what components can make up combination HIV interventions, i.e. different biomedical, behavioural and structural interventions (Piot et al,2009; Padian et al., 2011) there remains many unanswered questions as to how best to combine and implement HIV prevention strategies for AGYW (Chang et al., 2013). Furthermore, the challenge to create effective and acceptable interventions that can maximize coverage is

considerable. Combination HIV prevention interventions that have been implemented in South Africa, such as the DREAMS and IMAGE programmes provide useful lessons for improving future interventions for AGYW in similar contexts.

A noticeable gap in the research is the inclusion and representation of AGYW voices both in the design, implementation and evaluations of interventions. Biological outcomes are frequently used to evaluate the impact of interventions but this does not give any insight into how the intervention is perceived and whether it was considered acceptable by recipients of the intervention. Eliciting input from the recipients of combination HIV interventions could be hugely beneficial in designing future interventions that are appropriate and acceptable for AGYW (Hosek, Brothers and Lemos, 2020).

References

Andersson, N., Cockcroft, A. and Shea, B., 2008. Gender-based violence and HIV: relevance for HIV prevention in hyperendemic countries of southern Africa. *Aids*, 22, pp.S73-S86.

Auerbach, J.D., Parkhurst, J.O. and Cáceres, C.F., 2011. Addressing social drivers of HIV/AIDS for the long-term response: conceptual and methodological considerations. *Global public health*, 6(sup3), pp.S293-S309.

Baral, S., Logie, C.H., Grosso, A., Wirtz, A.L. and Beyrer, C., 2013. Modified social ecological model: a tool to guide the assessment of the risks and risk contexts of HIV epidemics. *BMC public health*, 13(1), p.482.

Beauchair, R. and Delva, W., 2013. Is younger really safer? A qualitative study of perceived risks and benefits of age-disparate relationships among women in Cape Town, South Africa. *PloS one*, 8(11).

Beksinska, M.E., Smit, J.A. and Mantell, J.E., 2012. Progress and challenges to male and female condom use in South Africa. *Sexual health*, 9(1), pp.51-58.

Chimbindi, N., Birdthistle, I., Shahmanesh, M., Osindo, J., Mushati, P., Ondeng'e, K., Zuma, T., Chiyaka, T., Kyegombe, N., Hargreaves, J. and Busza, J., 2018. Translating DREAMS into practice: early lessons from implementation in six settings. *PLoS One*, 13(12).

Chin, H.B., Sipe, T.A., Elder, R., Mercer, S.L., Chattopadhyay, S.K., Jacob, V., Wethington, H.R., Kirby, D., Elliston, D.B., Griffith, M. and Chuke, S.O., 2012. The effectiveness of group-based comprehensive risk-reduction and abstinence education interventions to prevent or reduce the risk of adolescent pregnancy, human immunodeficiency virus, and sexually transmitted infections: two systematic reviews for the Guide to Community Preventive Services. *American journal of preventive medicine*, 42(3), pp.272-294.

Dailard, C., 2003. Understanding 'abstinence': implications for individuals, programs and policies. *Guttmacher Report on Public Policy*, 6(5), pp.4-6.

Dellar, R.C., Dlamini, S. and Karim, Q.A., 2015. Adolescent girls and young women: key populations for HIV epidemic control. *Journal of the International AIDS Society*, 18, p.19408

Department of Health, Medical Research Council, OrcMacro, 2007. South Africa demographic and health survey 2003.

De Oliveira, T., Kharsany, A.B., Gräf, T., Cawood, C., Khanyile, D., Grobler, A., Puren, A., Madurai, S., Baxter, C., Karim, Q.A. and Karim, S.S.A., 2017. Transmission networks and risk of HIV infection in KwaZulu-Natal, South Africa: a community-wide phylogenetic study. *The lancet HIV*, 4(1), pp.e41-e50.

Dunkle, K.L., Jewkes, R.K., Brown, H.C., Gray, G.E., McIntyre, J.A. and Harlow, S.D., 2004. Gender-based violence, relationship power, and risk of HIV infection in women attending antenatal clinics in South Africa. *The lancet*, 363(9419), pp.1415-1421.

Dunkle, K.L., Jewkes, R.K., Brown, H.C., Gray, G.E., McIntyre, J.A. and Harlow, S.D., 2004. Transactional sex among women in Soweto, South Africa: prevalence, risk factors and association with HIV infection. *Social science & medicine*, 59(8), pp.1581-1592.

Evans, M., Maughan-Brown, B., Zungu, N. and George, G., 2017. HIV prevalence and ART use among men in partnerships with 15–29 year old women in South Africa: HIV risk implications for young women in age-disparate partnerships. *AIDS and Behavior*, 21(8), pp.2533-2542.

Feucht, U.D., Kinzer, M. and Kruger, M., 2007. Reasons for delay in initiation of antiretroviral therapy in a population of HIV-infected South African children. *Journal of tropical pediatrics*, 53(6), pp.398-402.

Hankins, C.A. and Dybul, M.R., 2013. The promise of pre-exposure prophylaxis with antiretroviral drugs to prevent HIV transmission: a review. *Current Opinion in HIV and AIDS*, 8(1), pp.50-58.

Harrison, A., Colvin, C.J., Kuo, C., Swartz, A. and Lurie, M., 2015. Sustained high HIV incidence in young women in Southern Africa: social, behavioral, and structural factors and emerging intervention approaches. *Current HIV/AIDS Reports*, 12(2), pp.207-215.

Harrison, A., Newell, M.L., Imrie, J. and Hoddinott, G., 2010. HIV prevention for South African youth: which interventions work? A systematic review of current evidence. *BMC public health*, 10(1), p.102.

- Harrison, A., Cleland, J. and Frohlich, J., 2008. Young people's sexual partnerships in KwaZulu-Natal, South Africa: patterns, contextual influences, and HIV risk. *Studies in family planning*, 39(4), pp.295-308.
- Harvey, B., Stuart, J. and Swan, T., 2000. Evaluation of a drama-in-education programme to increase AIDS awareness in South African high schools: a randomized community intervention trial. *International journal of STD & AIDS*, 11(2), pp.105-111.
- Hearst, N. and Chen, S., 2004. Condom promotion for AIDS prevention in the developing world: is it working?. *Studies in family planning*, 35(1), pp.39-47.
- Hirsch, J.S., 2014. Labor migration, externalities and ethics: Theorizing the meso-level determinants of HIV vulnerability. *Social Science & Medicine*, 100, pp.38-45.
- Hosek, S., Brothers, J. and Lemos, and the Adolescent Medicine Trials Network for HIV/AIDS Interventions, D., 2012. What HIV-positive young women want from behavioral interventions: A qualitative approach. *AIDS Patient Care and STDs*, 26(5), pp.291-297.
- Joint United Nations Programme on HIV/AIDS (UNAIDS), 2016. Prevention gap report. *Geneva: UNAIDS*.
- Joint United Nations Programme on HIV/AIDS., 2007. *UNAIDS practical guidelines for intensifying HIV prevention: towards universal access*. World Health Organization.
- Karim, S.S.A., 2012. An AIDS-free generation?.
- Kurth, A.E., Celum, C., Baeten, J.M., Vermund, S.H. and Wasserheit, J.N., 2011. Combination HIV prevention: significance, challenges, and opportunities. *Current HIV/AIDS Reports*, 8(1), pp.62-72.

MacPhail, C., Williams, B.G. and Campbell, C., 2002. Relative risk of HIV infection among young men and women in a South African township. *International journal of STD & AIDS*, 13(5), pp.331-342.

Mantell, J.E., Smit, J.A., Exner, T.M., Mabude, Z., Hoffman, S., Beksinska, M., Kelvin, E.A., Ngoloyi, C., Leu, C.S. and Stein, Z.A., 2015. Promoting female condom use among female university students in KwaZulu-Natal, South Africa: results of a randomized behavioral trial. *AIDS and Behavior*, 19(7), pp.1129-1140.

Mash, R., Mash, B. and De Villiers, P., 2010. 'Why don't you just use a condom?': understanding the motivational tensions in the minds of South African women. *African Journal of Primary Health Care and Family Medicine*, 2(1), pp.1-4.

Masson, L., Passmore, J.A.S., Liebenberg, L.J., Werner, L., Baxter, C., Arnold, K.B., Williamson, C., Little, F., Mansoor, L.E., Naranbhai, V. and Lauffenburger, D.A., 2015. Genital inflammation and the risk of HIV acquisition in women. *Clinical Infectious Diseases*, 61(2), pp.260-269.

McLaren, L. and Hawe, P., 2005. Ecological perspectives in health research. *Journal of Epidemiology & Community Health*, 59(1), pp.6-14.

Methods for Prevention Packages Program (MP3 II) (R01) [Accessed February 2020]. Available at: <http://grants.nih.gov/grants/guide/rfa-files/RFA-AI-10-005.html>.

Mojola, S.A., 2014. *Love, money, and HIV: Becoming a modern African woman in the age of AIDS*. Univ of California Press.

Muula, A.S., 2008. HIV infection and AIDS among young women in South Africa. *Croatian medical journal*, 49(3), p.423.

Norris, A.H., Kitali, A.J. and Worby, E., 2009. Alcohol and transactional sex: how risky is the mix?. *Social science & medicine*, 69(8), pp.1167-1176.

Padian, N.S., McCoy, S.I., Karim, S.S.A., Hasen, N., Kim, J., Bartos, M., Katabira, E., Bertozzi, S.M., Schwartländer, B. and Cohen, M.S., 2011. HIV prevention transformed: the new prevention research agenda. *The Lancet*, 378(9787), pp.269-278.

Parker, R., 1987. Acquired immunodeficiency syndrome in urban Brazil. *Medical Anthropology Quarterly*, 1(2), pp.155-175.

Pettifor, A.E., MacPhail, C., Bertozzi, S. and Rees, H.V., 2007. Challenge of evaluating a national HIV prevention programme: the case of loveLife, South Africa. *Sexually Transmitted Infections*, 83(suppl 1), pp.i70-i74.

Pettifor, A.E., Rees, H.V., Kleinschmidt, I., Steffenson, A.E., MacPhail, C., Hlongwa-Madikizela, L., Vermaak, K. and Padian, N.S., 2005. Young people's sexual health in South Africa: HIV prevalence and sexual behaviors from a nationally representative household survey. *Aids*, 19(14), pp.1525-1534.

Pronyk, P.M., Kim, J.C., Abramsky, T., Phetla, G., Hargreaves, J.R., Morison, L.A., Watts, C., Busza, J. and Porter, J.D., 2008. A combined microfinance and training intervention can reduce HIV risk behaviour in young female participants. *Aids*, 22(13), pp.1659-1665.

Ranganathan, M., Heise, L., Pettifor, A., Silverwood, R.J., Selin, A., MacPhail, C., Delany-Moretlwe, S., Kahn, K., Gómez-Olivé, F.X., Hughes, J.P. and Piwowar-Manning, E., 2016. Transactional sex among young women in rural South Africa: prevalence, mediators and association with HIV infection. *Journal of the international AIDS society*, 19(1), p.20749.

Reddy, S.P., James, S., Sewpaul, R., Sifunda, S., Ellahebokus, A., Kambaran, N.S. and Omardien, R.G., 2013. Umthente uhlaba usamila: The 3rd South African national youth risk behaviour survey 2011.

Ross, D.A., Wight, D., Dowsett, G., Buvé, A. and Obasie, A.I., 4. The weight of evidence: a method for assessing the strength of evidence on the effectiveness of HIV prevention interventions among young people.

Santelli, J., Haerizadeh, S., McGovern, T. and Unicef, 2017. Inclusion with Protection: Obtaining informed consent when conducting research with adolescents.

Santelli, J.S., Kantor, L.M., Grilo, S.A., Speizer, I.S., Lindberg, L.D., Heitel, J., Schalet, A.T., Lyon, M.E., Mason-Jones, A.J., McGovern, T. and Heck, C.J., 2017. Abstinence-only-until-marriage: An updated review of US policies and programs and their impact. *Journal of Adolescent Health*, 61(3), pp.273-280.

Shisana, O., Rehle, T., Simbayi, L.C., Zuma, K., Jooste, S., Pillay-van-Wyk, V., Mbelle, N., Van Zyl, J., Parker, W., Zungu, N.P. and Pezi, S., 2009. the SABSSM III Implementation Team: South African national HIV prevalence, incidence, behaviour and communication survey 2008: A turning tide among teenagers. *Cape Town*.

Statistics South Africa. Mid-year Population Estimates 2018. South Africa: Statistics South Africa, Pretoria; 2018.

Stoebenau, K., Nixon, S.A., Rubincam, C., Willan, S., Zembe, Y.Z., Tsikoane, T., Tanga, P.T., Bello, H.M., Caceres, C.F., Townsend, L. and Rakotoarison, P.G., 2011. More than just talk: the framing of transactional sex and its implications for vulnerability to HIV in Lesotho, Madagascar and South Africa. *Globalization and health*, 7(1), p.34.

Taha, T.E., Hoover, D.R., Dallabetta, G.A., Kumwenda, N.I., Mtimavalye, L.A., Yang, L.P., Liomba, G.N., Broadhead, R.L., Chipangwi, J.D. and Miotti, P.G., 1998. Bacterial vaginosis and disturbances of vaginal flora: association with increased acquisition of HIV. *Aids*, 12(13), pp.1699-1706.

UNAIDS. 2019. 'Women and HIV — A spotlight on adolescent girls and young women', p15. PDF.

UNAIDS, F.T.C.P., 2015. Reference towards reducing new HIV infections to fewer than 500 000 By 2020.

United Nations. General Assembly, Third Committee and Inter-Agency Standing Committee, 2010. UNAIDS. UNAIDS Report on the Global AIDS Epidemic 2010.

Van Damme, W., Kober, K. and Kegels, G., 2008. Scaling-up antiretroviral treatment in Southern African countries with human resource shortage: how will health systems adapt?. *Social science & medicine*, 66(10), pp.2108-2121.

Visser, M.J., Schoeman, J.B. and Perold, J.J., 2004. Evaluation of HIV/AIDS prevention in South African schools. *Journal of health psychology*, 9(2), pp.263-280.

Wamoyi, J., Stobeanu, K., Bobrova, N., Abramsky, T. and Watts, C., 2016. Transactional sex and risk for HIV infection in sub-Saharan Africa: a systematic review and meta-analysis. *Journal of the international AIDS society*, 19(1), p.20992.

Watt, M.H., Aunon, F.M., Skinner, D., Sikkema, K.J., Kalichman, S.C. and Pieterse, D., 2012. "Because he has bought for her, he wants to sleep with her": Alcohol as a currency for sexual exchange in South African drinking venues. *Social science & medicine*, 74(7), pp.1005-1012.

Wilson, D. and Halperin, D.T., 2008. “Know your epidemic, know your response”: a useful approach, if we get it right. *The Lancet*, 372(9637), pp.423-426.

World Health Organization, 2004. UNAIDS and United Nations Population Fund.

World Health Organization, editor. Policy brief: HIV prevention, diagnosis, treatment and care for key populations. Geneva: WHO; 2014. p. 1184.

Zuma, K., Setswe, G., Ketye, Y., Mzolo, T., Rehle, T. and Mbelle, N., 2010. Age at sexual debut: a determinant of multiple partnership among South African youth. *African journal of reproductive health*, 14(2), pp.47-54.

Zuma, K., Shisana, O., Rehle, T.M., Simbayi, L.C., Jooste, S., Zungu, N., Labadarios, D., Onoya, D., Evans, M., Moyo, S. and Abdullah, F., 2016. New insights into HIV epidemic in South Africa: key findings from the National HIV Prevalence, Incidence and Behaviour Survey, 2012. *African Journal of AIDS Research*, 15(1), pp.67-75.

Part C: Journal Manuscript

Target journal: BMC Public Health

Word limit: none

Title:

Adolescent Girls and Young Womens' perspectives of how their lives were impacted by participating in a combination HIV-prevention intervention in South Africa: a qualitative study

Abstract

Background: HIV incidence among adolescent girls and young women (AGYW) aged 15-24 in sub-Saharan Africa remains exceptionally high. Evidence shows that no single HIV prevention strategy will be effective in controlling the HIV pandemic. Research in recent years demonstrates the need for combination HIV prevention efforts, including biomedical, behavioral, and structural interventions. Given the urgent need to identify strategies that effectively reduce HIV risk among AGYW, it is crucial to understand how best to maximize the impact of combination HIV prevention interventions. This qualitative study explored the perceived impacts of a combination HIV-prevention intervention on the lives of AGYW in South Africa.

Methods: The study is based on the findings from a qualitative evaluation of the RISE Club Programme, one component of a combination HIV intervention for AGYW. Using 24 focus group discussions and 63 in-depth interviews with 237 AGYW, we explored participants' experiences and perceptions of participating in a combination HIV prevention intervention and how it was perceived to impact their lives.

Results: From the perspectives of AGYW, the intervention was perceived to positively impact their ability to communicate and develop and maintain healthy relationships with family, peers and partners. The findings show that the intervention helped increase their sexual and reproductive health (SRH) knowledge which improved their sexual self efficacy while also encouraging positive behavioural choices such as contraceptive uptake. It was perceived to improve AGYW lives and personal development, specifically their self confidence and self

esteem. However, logistical challenges with the implementation of the intervention and unmet expectations, created frustration and negative perceptions of the intervention in some instances.

Conclusions: Overall, the findings demonstrate that intervention recipients perceived positive impacts on their lives as a result of participating in the RISE programme. Understanding the perspectives of AGYW, is helpful in order to assess the benefits and perceived impacts of such an intervention on the lived realities of intended beneficiaries. Taking these perspectives into consideration can help to inform the design and implementation of future combination HIV prevention interventions for a similar sub-group of the population.

Keywords: HIV Incidence, Prevention, Combination Intervention, Adolescent Girls, Young Women, Sexual and Reproductive Health, Behaviour Change

Background

In South Africa, HIV incidence continues to disproportionately affect women and young women aged 15-24, consistently have the highest incidence of HIV compared to any other age or sex cohort in South Africa (SANAC 2017; MacPhail, Williams and Campbell., 2002). In South Africa, latest figures suggest an estimated 7.7 million (7 100 000 - 8 300 0000 people) are living with HIV in South Africa, with more than 60% of that population being women (UNAIDS, 2018). Worryingly, when surveyed only 45.8% of women and men aged 15–24 years old correctly identified ways of preventing the sexual transmission of HIV (UNAIDS, 2019). As remarked in South Africa’s National Strategic plan, 2017-2022 “the extraordinarily high incidence of HIV among adolescent girls and young women demands that they be singled out for extraordinary effort” (SANAC 2017, p.9). To prevent an increase in HIV incidence amongst AGYW⁹, it is critical to meet the intervention needs of adolescent girls and young women at risk of acquiring HIV/AIDS (Dellar et al., 2015).

⁹ For the purpose of this study, adolescent girls and young women include all those falling within the ages of 15–24 years.

To be most effective, research highlights the need for comprehensive HIV prevention interventions (UNAIDS, 2013). It is argued that when implemented correctly, combination prevention efforts which include biomedical, behavioural and structural interventions¹⁰ can help overcome many of the barriers that limit preventative, health seeking or treatment behaviours (UNAIDS, 2013). Research has also illustrated that when social and contextual factors are taken into account in the design and implementation of interventions, targeting HIV risk behaviour of a target population is more successful than interventions that do not take these factors into consideration (Visser, 2007).

One such example is the consideration of gender as a factor or social determinant of health which impacts access to treatment, care and support (WHO, 2010). Gender norms¹¹ can influence how girls, boys, women and men access health services and how health systems respond to their needs (WHO, 2010). Gender related beliefs and practices differ between men and women and are often unequal and hierarchical, resulting in gender inequalities (WHO, 2009). Gender inequalities impact the ability of young women and girls to protect and promote their health and requires recognition in order to appropriately and effectively plan health interventions (WHO, 2010).

Yet many interventions lack targeted combination strategies and fail to include gender sensitive or responsive approaches that help vulnerable young women (Gupta, 2000; Jewkes et al., 2010; Türmen, 2003). Evidence in the literature illustrates that many prevention interventions remain dominated by HIV testing, antiretroviral treatment and treatment for sexually transmitted diseases as well as promoting male condom use and circumcision (Jewkes et al., 2010).

¹⁰ For the purpose of this study we draw on the UN definition of structural factors which is defined as “the environmental conditions outside the control of individuals which influence their perceptions, their behaviour and their health. This broad view of structural factors may include features of the social, cultural, economic, political and physical environment. Structural interventions are activities designed to alter specific environmental features such as inequitable gender norms, or HIV-related stigma— so as to create a more enabling environment for HIV prevention, treatment and care and support” (UNAIDS, 2010, p9)

¹¹ The WHO defines gender as what a society thinks about the roles, responsibilities, behaviour, opportunities and status of women and men in relation to each other (WHO, 2009, p.1). It has also been referred to as “relationships between people and can reflect the distribution of power within those relationships” (Manandhar et al., 2018, p.644)

Arguably, by failing to focus on gender specific issues, interventions are failing to provide adequate help needed by vulnerable women (Jewkes et al., 2010).

Using qualitative data collected from a mixed methods study titled “HERStory study”, we examine the perceived impacts of the RISE¹² Clubs intervention. RISE Clubs are youth based mentoring programmes that offer a comprehensive package of life skills and empowerment activities with the overall objective of reducing HIV amongst AGYW. The intervention was implemented in ten purposively selected districts in South Africa which include some of the most vulnerable AGYW in the country, with the highest HIV incidence.

The RISE Clubs model was designed to be a peer-led education method, an approach that is widely used as a preventative intervention method. In the context of HIV/AIDS prevention, peer education interventions are considered effective in providing young people with harm reduction information and psychosocial support as well as helping youth to develop decision making skills (Swartz et al., 2012, Campbell & Foulis 2002; Delp, Brown & Domenzain 2005; Story, Lytle, Birnbaum & Perry 2002; Wiist & Snider 1991).

Despite remaining a popular HIV prevention and health promotion strategy, the efficacy and positive impacts of peer education programmes remain disputed. Some researchers emphasize that there is not enough evidence to suggest the effectiveness of peer education programmes (Tolli., 2012, Harden et al., 2001). Dellar et al. (2015) argue that very few peer led studies have been evaluated and most fail to demonstrate efficacy in reducing HIV incidence or long-lasting behaviour change among adolescents. The design and implementation of peer led studies also come into question. Some studies emphasize that little or no effect on participants is achieved when such interventions are not properly implemented or grounded in a strong research design (Mukoma et al. 2009; Sriranganathan et al., 2012).

¹² The RISE Club Programme is a gender specific, youth mentoring programme that offers a comprehensive package of life skills and empowerment activities with the aim to empower and build the resilience of young women and also to link them to biomedical services such as modern contraception and other SRH services.

With a growing body of research highlighting the need for combination approaches to HIV prevention, and the increasingly popular peer education method for promoting behavioural change in HIV prevention programmes in question, we examine how the RISE Clubs intervention was perceived by AGYW who participated in the intervention. The overall intervention consisted of several components of which RISE club's was one component. For the purpose of this study, we focus on the RISE component only.

Methods

Study Context and Setting

This qualitative research study is embedded within a broader mixed-methods study, titled “HERStory study”, which evaluated the impact of a South African combination HIV prevention intervention program for AGYW, funded by the Global Fund. The Global Fund-supported AGYW program, aimed at reducing HIV incidence among AGYW includes an extensive package of biomedical, structural and social-behavioural interventions including health, education and support services for AGYW (in and out of school). The program used a combination of different models of life skills-based HIV education designed and targeted at different age groups, with the aim to effect positive behaviour change and empowerment as well as increasing access to sexual and reproductive health and HIV testing services. It was implemented from 2016-2019 in 10 districts across 7 provinces in South Africa. The ten districts were purposively selected as they include some of the most vulnerable AGYW in the country, with the highest HIV incidence¹³.

The RISE Clubs programme was one of 7 main components in the combination HIV prevention intervention funded by the Global Fund. The aim of the RISE intervention component was to respond to local level gender specific risk factors and empowerment needs of young women through a comprehensive package of life skills and empowerment activities. It was implemented

¹³ Further details of the intervention and evaluation study are available at: <http://www.mrc.ac.za/intramural-research-units/HealthSystems-HERStory>.

as an entirely peer-led program, with the support and facilitation of a trained volunteer who provided age-appropriate materials. Sessions were guided by a curriculum that promotes sexual and reproductive health knowledge as well as positive social behavioural change within their local contexts. In addition, clubs were also positioned to link AGYW to biomedical services such as ART, HIV testing services, contraception and other SRH services.

In the second year of implementation, economic, social and cultural sub-components were added to the Rise Club Model, linking AGYW to additional educational and economic opportunities. These included access to Technical and Vocational Education and Training (TVET) colleges, local microenterprise development organizations, financial literacy, basic skills development, vocational acceleration programs, job placements and career development.

Data collection

Data collection for this ‘HERStory’ study took place between August 2018 and March 2019 in five of the intervention districts: City of Cape Town, Western Cape (WC); Uthungulu, KwaZulu-Natal (KZN); Gert Sibande, Mpumalanga (MPU); Bojanala, North West (NW); and Nelson Mandela Bay, Eastern Cape (EC). The qualitative study was conducted in these five purposively selected districts, to ensure that a district from each of the Principal Recipients of Global Funding was included.

A trained research assistant (RA), based at the respective district/s assisted with recruitment in the schools and in the community. Permission to conduct the study was sought from the school principal. Included participants were direct recipients of the Global Fund intervention activities and were female, aged 15-24 and had given consent for participation. Exclusion criteria included limitations based on the assessment of the participant's ability to comprehend the study information provided; participants who were unable to speak or hear in one of the 11 South African national languages and participants who had been living in the district for less than two years.

IDIs and FGDs followed semi-structured interview guides, were conducted in the predominant languages spoken in each district, and explored AGYW's narratives of the intervention's effects on their lives. A three step process was used to translate the audio-recordings .Audio recordings of IDIs and FGDs were transcribed verbatim into their original language, reviewed by the interviewer/s for accuracy, translated into English and re-reviewed. Qualitative data was analysed thematically, coded using Nvivo 12 software, and interpreted by an analysis team.

Data Analysis

Data analysis is focused on the qualitative findings, specifically interview transcripts that were generated from the IDIs and FGDs conducted by the South African Medical Research Council research team during the qualitative component of the HERStory study.¹⁴ Transcripts were uploaded into NVivo 12 software package (QSR International) and coded using a codebook developed iteratively between the manuscript authors. Transcripts were coded first through descriptive coding for key themes and topics, using the preliminary codebook. During the early stages of data collection, a set of preliminary codes had been developed based on the research questions. The analysis coding structure reflected the topics/themes covered in the interview guides. After the initial interviews were completed, and the codebook had been tested by applying this initial set of thematic codes, the codebook, code names and definitions were expanded, modified and refined as necessary. Additional codes were identified through an iterative process of reading the textual data and identifying emergent themes, and the codebook was modified accordingly. Once finalised, this codebook was used for a final coding of transcripts.

Thematic analysis

Thematic content analysis was used to analyze the data. Braun and Clarke's "six phase framework" was used to guide the analysis (Braun and Clarke, 2006). The first step of the framework included becoming familiar with the data. Familiarization with the data was achieved

¹⁴ Impact Evaluation of the Global Fund Adolescent girls and young women (AGYW) Intervention in Ten South African Districts Qualitative Study Component. Interim Analysis Report. June 2019. Health Systems Research Unit. South African Medical Research Council

by reading and re-reading the transcripts and code reports generated by the research team to get a better understanding of the data. Transcripts and code reports from the IDIs and FGDs specifically relating to RISE Clubs intervention were independently read and analyzed by the first author. Step 2 involved noting and recording initial thoughts and broad themes. The IDI and FGD transcripts were read line by line, manually applying open codes to relevant data through a process of constant comparison identifying correlations, patterns and repetition of words. The 3rd step involved searching for themes which was done by grouping codes into potential themes and assessing how these themes relate back to the research question. In step 4, broad themes were reviewed and modified where necessary, establishing main themes and sub-themes, with some initial themes being eliminated. This was done by reviewing the themes in context of the entire data set, reading the data associated with each theme and considering whether the data supported the theme. The final step included a detailed analysis of each theme. The themes were summarized and interpreted in relation to the study.

Results

Four main themes emerged from the analysis¹⁵. First, participants expressed their improved ability to communicate with peers, partners and family by learning new communication skills and techniques in RISE sessions; the second provides insights into AGYW increase in knowledge of safe sex practices and the importance of using contraceptives, highlighting young women's expressed agency in their sexual encounters and their perceived HIV risk; the third illustrates how the RISE intervention was positively perceived by AGYW to help improve their self confidence and self respect, including their ability to overcome self-limiting beliefs and perceptions.; the final thematic element illustrates AGYW perspectives on aspects of the intervention that did not work well.

Theme: Improved Communication Skills

One recurrent theme in the narratives of AGYW was the perception that their ability to communicate and overcome communication barriers had improved. Many of the AGYW

¹⁵ Illustrative quotes are presented in italics, followed in brackets by sample group and site. Where "i" is referenced it refers to the interviewer. Where 'r' is referenced it refers to the respondent

reported the difficulties they face when communicating with peers, partners, family and friends. They also highlighted how communication barriers impact their ability to make informed decisions about their sexual and reproductive health. To openly discuss their sexual relationships or share their decisions regarding family planning methods was perceived as a choice which would result in detrimental personal effects. This included fear of isolation, stigmatization or being judged. The fear of physical harm and violence also surfaced in their narratives. For many young women, this negatively impacted their willingness and ability to engage in different forms of communication, including talking openly, sharing feelings and listening to others.

Communicating with facilitators

Generally, it is evident that distrust in adults, including parents and teachers is common. Many of the AGYW described adults as lacking in understanding and mutual respect. This perception appears to limit the willingness of young women to talk and share with adults.

I: Is there any person here at school that you can talk to when you feel that you are down, or stressed or depressed, is there a person you can talk to?

R: No, there is no one because you cannot trust any one and one other thing is that teachers here at school like to gossip. (AGYW 15-19, Mpumalanga)

One aspect of the intervention that was particularly impactful was the role that RISE facilitators played and the relationships of trust that developed between them and the young women. These type of relationships played a key part in how the young women received information during the sessions and contributed to their confidence building, ability to interact and speak to others:

Sis Jackie was very frank and open with us, as a result it is like speaking to a peer or friends and she gives us sound advice in our wrong doing or misconception. (AGYW 15-19, Eastern Cape)

AGYW attributed the development of improved behavioural and communication skills to individual facilitators, highlighting how they helped them to navigate difficult social settings and engagements;

RISE has taught me to love people, because I was not able to talk to people before. If a person wanted to talk to me I would distance myself and say I don't want to talk to them. I am aggressive towards people, sis Linda taught me how to talk to people so that when I am faced with a challenge I can open up. (AGYW 15-19, Western Cape)

In the overall context of many of the young women reporting their negative perceptions of adults and their inability to trust and open up to anyone resembling an adult figure, the positive feedback given about facilitators stood in stark contrast to this. Despite being recognized as authority figures, personal attributes of the facilitators were highlighted as positive and relatable, with an emphasis on them being knowledgeable, approachable and comfortable to talk to.

She was like a friend to us, when we joined RISE Club we did not open up completely because we were under the impression that she is an adult and will not understand what we were going through and we limited ourselves. Sis Jackie told us to open up because while we were at RISE Club we are all the same and experiencing the same things including her so we must talk and learn to be confident in speaking. (AGYW 15-19, Eastern Cape)

Communicating with Family

AGYW reported having disruptive family structures, with fear and feelings of isolation compounding their communication problems such as the ability to talk to those closest to them. Relationships with family members, specifically the mother or maternal figure such as an aunt was highlighted as being particularly challenging. The ability to share and openly communicate about sexual and reproductive health or personal topics such as romantic relationships was described as a difficult process. As a result the choice to hide and withhold information was common.

According to AGYW, RISE positively impacted their ability to overcome communication barriers. Several of the young women reported how participating in RISE clubs has helped them to develop communication techniques which made it easier to connect and build relationships with their mothers and close family members.

I use to hide my things from my family and I only use to share with my younger sister and I used to tell my mother that I was being thought by RISE about things relating to teenage pregnancies and HIV and STI, I was not open to my mother about these things because I was afraid of how she would respond. I was very frank and open with my Aunt because she was open to me too telling me about the things she went through and I ended up opening to my mother as well being able soften her up even if she was angry, I developed an approach to her. (AGYW 15-19, Eastern Cape)

When asked how the RISE intervention impacted them personally, AGYW highlighted how they felt better equipped to overcome communication barriers with friends and family. Learning how to listen, express emotions, convey feelings and engage in difficult conversations helped many of the young women to connect with their parents, with specific mention of the “mother” arising in several of the interviews and focus groups.

It has taught me to share, because I used to think that if I shared with my mother she will judge me, so now I share with her. (AGYW 15-19, Western Cape)

Communicating with romantic partners

A theme which resonated in the interviews was that AGYW learned how to develop sexual assertiveness and refusal skills. Through their participation in RISE Clubs AGYW learned that they have a choice to decide whether to engage sexually or not, with who and when. Sexual communication skill development was central to this with the importance of being able to speak up and say “no” emphasized during peer to peer sessions as reported by the participants. For

many of the participants, being encouraged to be assertive and say “no” was perceived to positively impact their behavioural choices. Participants reported that it helped them to withstand peer pressure, negotiate the delay in the onset of sexual intercourse, feeling increased confidence to discuss abstinence with a partner as well as instilling an awareness to take an active role in protecting their own well-being:

And in the RISE Club they encourage me to abstain from sex, to protect myself and if someone forces me to do something I don't want to I must say no and I must stand up for myself. If that person is trying to rape me and I must fight back if I can't I must scream, shout and do anything to protect myself. (AGYW 15-19, Eastern Cape)

Emerging from the data, it is evident that unequal gendered power dynamics is a reality for many of the young women both in their personal relationships and within their schools and communities. Learning how to navigate this and find a voice within these relationships was helpful for many of the AGYW. In the interviews, many young women voiced the difficulties encountered when trying to communicate with their partners including pressure to have sex and the fear of violence:

Boys have the mind-set that if they buy you stuff that will be inclined to say yes when he wants sex, which is not the case. So with my boyfriend I have told him that that is not the way things work and I asked him to leave but he said he is not going. Buy because he is a guy he is very persistent and he would say “but Mary I'm doing a, b, c for you yet you refuse sex to me, we would fight because I tell him that my virginity is not for sale. (AGYW 15-19, Eastern Cape)

Through the encouragement of RISE facilitators and their peers, AGYW learned about the importance of having a voice in a relationship and how to talk to their partners. Learning about what constitutes a healthy relationship and understanding their value and worth as women helped AGYW develop the confidence and skills to deal with difficult encounters:

When I used to date I could not say anything for myself, if he said something then I would just follow without asking or giving my opinion but now I have learned that you must talk for yourself and air your opinion, I have learnt that in a relationship- you two are assisting each other and I learned more about love. (AGYW 15-19, Eastern Cape)

I could not ask questions in my relationship but then Sis Jackie told us that your partner has to be like your friend, you have to talk to him so that you can hear his side of the story. (AGYW, 15-19, Eastern Cape)

Theme 2: Increased SRH Knowledge resulting in positive behaviour change

After participating in RISE clubs AGYW reported an increase in knowledge of safe sex practices and the importance of using contraceptives. Recipients also reported an increased awareness of the consequences of having unprotected sex, frequently referencing teenage pregnancy or the potential to acquire sexually transmitted diseases. In their accounts, AGYW recalled learning about the importance prevention, such as abstaining from sex and using contraceptives to prevent teenage pregnancy:

From RISE we talked about teenage pregnancy, so what we learnt there is that a student must abstain so that she won't be pregnant. Or using that thing, condom, or prevent to be safe. (AGYW 15-19, Western Cape)

I have been taught to go to the clinic to get birth control so I wouldn't have to get pregnant and get at a low grade in school. (AGYW 15-19, Western Cape)

AGYW highlighted their own role in reducing the social stigma and shame experienced by teenage mothers. Instead of isolating and judging their peers, participants remarked how the intervention encouraged non-judgement and support:

What I also learned is that if it should happen that my friend got pregnant or contracted a STI that I must not judge and advise not poke fun at it or speak out about it that I should rather offer support and encourage her to go to the clinic or accompany her to her parents if she is scared to tell them. Those are the things I learned. (AGYW 15-19, Western Cape)

Preventing HIV transmission

Through their participation in RISE Programmes, most of AGYW reported that they had gained a better understanding of sexually transmitted diseases such as HIV/AIDS and for some it helped dispel previously held misconceptions:

I did not know why I joined RISE, even with HIV, I knew how people got infected but I did not know what it does to you, so I learned what HIV does that it does not transmit through sharing of eating utensils but rather through unprotected sex. (AGYW 15-19, Eastern Cape)

One of the key impacts of the intervention mentioned by participants was becoming more informed about how to prevent the transmission of HIV and other STIs. During one focus group, participants discussed how they understood that HIV can be transmitted in different ways:

We must remember HIV is not always spread by sexual intercourse. (AGYW 15-19, Eastern Cape)

An example may be that a girl that has a cut on her arm and I might not know that she has HIV and I help her and then her blood touches mine and then I can get HIV. (AGYW 15-19, Eastern Cape)

HIV can be transmitted to you through birth if your mother has HIV and then you can get HIV from your mother. (AGYW 15-19, Eastern Cape)

Increased condom & contraceptive use

Becoming more informed and increasing their knowledge about HIV transmission helped promote health seeking behaviour and positive decision making. One example of this was the heightening of their perceived susceptibility to STIs and how this directly related to their intention to use condoms and prioritize their sexual health:

I learnt that when you sleep with your boyfriend, you must use condoms so that you won't get STI's. (AGYW 15-19, Western Cape)

When you sleep with a boy you have to use a condom, in that it helps with AIDS and not be affected with HIV. Diseases as a girl, we are quick to receive them since it's said we are the receivers. (AGYW 15-19, Western Cape)

This was coupled with a perceived increase in confidence and ability to negotiate and practice safe sex:

Like growing up I didn't know anything about condoms and stuff like that. And now I do. Like I know when I'm going to be intimate, I ask the guy to use a condom and put it on. (AGYW 15-19, Western Cape)

In some instances, an increase in SRH knowledge also helped intervention recipients to negotiate contraceptive use with their family members. Parents were described as being misinformed and lacking in understanding about modern family planning methods:

I think they don't have information because back in their time they did not do any of the things that our generation is doing. So they think when you are 15 years old you are still a child. So you can not go and prevent because obviously you are not sleeping with a boyfriend... And when you go to prevent they don't understand it as if you are protecting yourself. It's as if you are after boys. They think of such things, Once you have your periods they think you will sleep with boys. (AGYW 15-19, Eastern Cape)

Parents were described as being a barrier to access contraceptives, prohibiting them from using contraception. Participating in RISE and gaining more knowledge about sexual and reproductive health helped participants to navigate conversations with their family members about accessing contraception. Two participants highlighted how RISE impacted them, helping to speak to their close family members about the importance of prevention and using contraceptives.

I think it has changed because my mom did not want me to prevent, so I joined RISE and explained to her. So she let's me prevent. (AGYW 15-19, Eastern Cape)

With me as well it has changed because I was also not allowed to prevent, but I joined RISE and told them that not only a person that sleeps with boys that prevent. In case a person gets raped, so then they understood. (AGYW 15-19, Eastern Cape)

Knowledge of HIV status

One of the key impacts of the intervention as mentioned by participants was the importance of knowing their status and getting tested for HIV. The decision to get tested induced mixed emotions for the young women, varying from being afraid and reluctant to being motivated and glad to get tested. AGYW highlighted how they learned about the importance of getting tested and the implications it can have on their own personal health and others around them.

I feel happy because I didn't know what my status was so if I get tested I can be in the know so that if I am I can start my treatment early and I can inform my parents. (AGYW 15-19, Eastern Cape)

While there were mixed reports about the frequency and availability of testing, AGYW reported that as participants of RISE they were encouraged to get tested and lead by example to other girls:

For me I'm happy when there is an opportunity to get tested because of my parents who died of the virus, I'm really happy about it. At RISE we are always encouraged to get tested. (AGYW 15-19, Eastern Cape)

Theme 3: Improved Confidence and Self esteem

Another positive impact of the RISE intervention that emerged in the data was that the AGYW perceived themselves to be better equipped to take control of their own lives and find ways to cope with difficult situations. Young women reported feeling stronger and more confident to overcome challenges.

Yes I have seen a change. I don't want to lie, I used to say I prefer to stay with my problem. And it stresses me until it's over. But going in these available programs sharing, talking..., it helped me because I can be able to say No! I find that when we talk I also share my story. (AGYW 20-24, KwaZulu-Natal)

Feeling an improvement in their self-esteem and confidence to express themselves was attributed to the intervention:

The RISE Club helped me gain confidence. When I came to Hillside, I was a very shy child. I didn't talk to many people, but now when I joined the RISE Club, I am very talkative, I like to talk, I like to speak, and I like to laugh mam. I like to laugh a lot. (AGYW 15-19, Eastern Cape)

AGYW described how participation in the RISE Clubs helped change their perceptions of their self worth and value by learning to respect themselves as women.

The RISE Club awareness has taught us to respect ourselves as women because when you don't respect yourself other people won't respect you. You must respect your body to show others that they must respect you as a woman. (AGYW 15-19, Eastern Cape)

During one of the FGDs, when asked what they had learned collectively by participating in

RISE, many of the AGYW referenced “*Self confidence*” and “*self love*” (AGYW 15-19, Eastern Cape).

The importance of RISE Clubs and the role they played to empower women to improve their self worth and feel valued was surfaced by intervention recipients:

RISE Clubs existence must be reaffirmed so that girls can know that there is a group that helps young women because when women get stressed they might even drop on their marks because it becomes difficult to deal with stress. Young women should be supported so that they can feel their existence, and boys must also be taught these things so that they know. (AGYW 15-19, Eastern Cape)

Prior to their participation in the RISE Clubs, intervention recipients recounted how they lacked confidence and how they had perceived themselves to hold a lower social status compared to boys and men. During the FGDs, AGYW described how they had felt subordinate and of less worth as women, feeling pressure to develop coping strategies such as mimicking the behaviour and appearance of boys to achieve a sense of belonging at school and at home. Intervention recipients reported that through participating in the RISE sessions they learned about the importance of self respect which positively impacted their sense of self, improving their ability to overcome self limiting beliefs and perceptions they had held of themselves:

To be honest from Primary school before I entered the RISE Club and when I came to high school I used to think that I'm a girl so most guys won't respect me because I'm a girl that they look down on women, I use to pretend to be a boy just to fit in so when I came to Hillside I carried on pretending until there was a RISE Club, where we learnt about respecting yourself as a woman. You don't need to hide behind clothes pretending to be a boy because you are a woman, you have to be a woman... I can proudly say RISE Club has made me a girl. (AGYW 15-19, Eastern Cape)

Theme 4: Negative perceptions of the intervention

Logistical issues

Not all aspects of the RISE intervention were positively perceived by AGYW. Logistical issues, specifically the timing of RISE activities were noted as being problematic for recipients and impacted their involvement in the program. Not prioritizing intervention activities within school hours created the perception that it was inaccessible to the majority of learners

If it is an afternoon programme most kids do not attend, they just rush back home... most kids shy away from these kinds of afternoon programmes and decide to go home... We need to do away with programmes offered only in the afternoon. These programmes should be offered during normal school teaching time... when most learners are at school. (AGYW 15-19, Western Cape)

Additionally, AGYW noted that the timing of intervention activities overlapped with periods when they were otherwise occupied such as lunchtime.

(We don't participate because) most of the time we're busy during lunch... they come during lunch and we are busy. (AGYW 15-19, KZN, non-intervention Recipients)

Logistical challenges created frustration amongst AGYW and negatively impacted their overall perception and enjoyment of the intervention.

I did not like the issue of time... When they promise to fetch you at 08:00 they will come at 09:00. We become angry because when we leave our homes, we don't eat breakfast because we think that they will give us breakfast, but when we arrive there's no breakfast. The issue of time is a thorny issue... And sometimes, they will call us to meet somewhere, and only to find that, the arranged transport will not come, and if that is the case, they cancel, after waiting for a long

time at the station, that too is a thorny issue.... That is what we don't like because they promise to come and we had to wait for hours at the station and they end up not coming.... They don't explain, they just say, it has been cancelled.... They don't tell us... We don't feel good... (AGYW 15-19, Mpumalanga)

Furthermore, there were challenges with communication reported by existing members, who said they were not informed about the meetings, and then subsequently reprimanded for their absence.

Some of us, you don't inform us, and then afterwards you say we don't attend meetings, and then we get shocked. I just heard you now complaining that we don't want to do it. You didn't even tell me about it, or to show that there is a project. There was a certain meeting where you were just reprimanding me. That like, "you never show up for meetings"... Whereas for some of us when there is a meeting, we don't get told. (AGYW 15-18, North West)

Communication within the RISE programme was also viewed as problematic by some participants and impacted their ability to disclose information and trust other members. Communication and respect was cited as something that needed to be improved.

We must respect one another as members, when other people are in the meeting, you will find them staying there, they do not respect other children, others talk behind others what... what, that thing has destroyed many RISE teams (AGYW 19-24, North West)

Unmet expectations

Several participants highlighted that a motivating factor to join RISE groups was the expectation that they could get a job through the RISE club. But, for some this unmet expectation demotivated them and impacted their willingness to attend the intervention activities.

When I joined RISE, the moment you heard “women empowerment” you thought like that... like maybe it does more maybe they will take us as women, they will give us small jobs maybe we cut trees and then they pay us that small money. (AGYW 19-24, North West)

“They thought as much that ok it means at RISE maybe I’ll get a job but then when time goes on they saw that no, it’s been a while since I joined RISE we are not working we are given certificates only, so they decided that no it’s useless for me to be part of RISE” (AGYW 19-24, North West)

AGYW also felt that the intervention components were not useful or beneficial and were of limited scope.

I think I benefited more on academic programmes currently offered at school. When it comes to girl empowerment programmes, I do not see much change (AGYW 15-19, Western Cape)

More specifically, some AGYW negatively perceived the exclusion of young men in RISE sessions, with the perception that it reinforced negative gender stereotypes and narratives, and as placing the onus of responsibility solely on women to maintain their SRH. Arising in the FGDs, AGYW accounts illustrate that a lack of knowledge and understanding regarding sexual health and family planning persists amongst young men in their networks. AGYW themselves expressed a need and desire for boys to be included in SRH conversations and to be educated too.

They also need some RISE guys club if they get more knowledge about us girls and some stuff sexually they will gain more knowledge on guys and knowing about us and sexually because sometimes they don’t even know about pregnancy. They do know how to make girls pregnant but they don’t know about the other stuff. (AGYW 15-18, Eastern Cape)

Discussion

This qualitative study explored adolescent girls and young women's perspectives of how their lives were impacted by participating in a combination HIV-prevention intervention in South Africa. The findings add to the growing body of research on combination HIV prevention interventions and enable an in-depth understanding of the barriers that AGYW face in navigating their sexual and reproductive health. The evidence from focus groups discussions and in-depth interviews conducted in 5 districts in South Africa, suggests that AGYW mostly perceived positive impacts and experiences by participating in the RISE Clubs intervention. There were four main findings to emerge from the research.

Communication

Firstly, the findings illustrate that AGYW have a desire to communicate effectively but face many social and structural barriers which result in ineffective verbal communication.

Consequently, AGYW's SRH and overall well-being is frequently compromised in their daily realities.

Parental communication

Poor parental-child sexuality communication emerged as one of the key findings of this study. This warrants attention as research has shown a strong association between poor parental communication and poor sexual health among young people (Aggleton and Campbell, 2000).

Our findings show that the ability to communicate effectively with parents or adult figures is complex and can be constrained by multiple factors such as a lack of trust and understanding, fear of judgement and reprisal. The lack of disclosure due to fear and mistrust is not unique to this study and context. The fear of "scolding" has been shown to be a major deterrent to positive verbal communication between adolescent youth and parental figures (Wamoyi et al., 2010; Mpondo et al., 2018).

AGYW also perceived their parents to be lacking in SRH knowledge, specifically in regard to contraceptive options and viewed them as a barrier to obtaining or using contraception. As a result, AGYW were more likely to avoid conversations with parents and instead, seek advice and discuss SRH with other young women in RISE Clubs. These findings corroborate evidence from other studies which emphasize that adolescents are much more likely to have discussions about sexual practices and relationships with peers, specifically same sex peers, than with adults (Campbell and MacPhail, 2002, Visser et al., 2004; Mfono, 1998).

AGYW perceptions of their mothers and their inability to communicate openly about SRH, also shares similarities with other studies. Prior research in South Africa has shown that AGYW frequently find it uncomfortable discussing sexual health and relationships with their mothers, with a widely held perception that mothers will promote abstinence and lack an openness when engaged on the topics of SRH (AVAC, 2018). These findings align with existing literature elsewhere in Africa which shows that mothers presenting sex as a dangerous activity and as one which should be avoided, limits the interactional space where adolescent women can speak openly about sex (Lesch and Kruger, 2005; Campbell et al., 2005).

Improving parent-child sexuality communication has been proven to be an important protective factor for adolescent SRH, including HIV infection. (Bastien, Kajula and Muhwezi, 2011). In the case of this study, the positive perceived impacts of improved communication reinforce those from prior intervention studies demonstrating that interventions can be successful in reducing barriers to SRH communication. Findings from an intervention study in South Africa, which actively promoted sexual communication between adults and young people, illustrate that communication about sex between young people and their parents positively influenced young people's sexual behaviour (Phetla, Busza, Hargreaves et al., 2008). Further evidence emerging from developed countries suggests that creating opportunities for open communication between youth and their parents, partners and peers improves the likelihood of safe sex being practiced by young people (Hillier, Harrison and Warr, 1998; Aggleton, Davies, and Hart., 2003).

Arguably, AGYW accounts also bring attention to a potential limitation of the RISE model in omitting strategies to actively engage parents in the process of adolescent SRH. The barriers faced by AGYW in communicating with their parents and adult figures highlight that many different strategies will need to be considered, including improving parent-adolescent relationships, improving SRH education and knowledge of parents as well as how communication takes place between AGYW and their parents.

Findings from other studies are promising. It has been shown that if the process of talking about sex with their parents is viewed as an easy one, AGYW are much more likely to engage in discussions about sex (Miller et al., 1998). If factoring in the importance of how conversations take place between adolescents and their parents, not only what is being discussed, conversations may be more effective (Dutra, Miller and Forehand, 1999). Creating safe spaces that allow for open dialogue between parents and adolescents is also beneficial. Young people have been shown to particularly value “openness” in discussing sex over being judged during discussions with their parents and other role models (Whitaker, Miller, May, & Levin, 1999).

Sexual communication

Mirroring the findings of other studies in South Africa (Wood, Maforah and Jewkes, 1998; Wood and Jewkes, 1997; MacPhail and Campbell, 2001; Varga, 1997) our findings show that AGYW also frequently experience barriers to communicating with their romantic partners.

Ineffective verbal communication, specifically the inability to communicate and use specific vocabulary to discuss sexual interactions and desires has been found to be an associating factor with violence in adolescent relationships (Wood and Jewkes, 1997). And, women with violent or controlling male partners have been found to be at an increased risk of HIV infection (Dunkle et al., 2004). As with some of the AGYW in this study, Given this evidence and particularly high rates of HIV incidence and teenage pregnancy amongst AGYW in South Africa, the perspectives shared by AGYW in this study underlines a need to consider the multitude of barriers that inhibit

SRH communication for AGYW when designing and implementing HIV/AIDS and reproductive health interventions.

In this study, one notable finding was the impact of RISE facilitators and their role in reducing barriers to SRH communication. AGYW perspectives brought to the fore the role that they played in building trust in other adults and creating safe spaces for open communication.

Considering that the RISE intervention is based almost entirely on a peer led approach, these findings provide useful insights into the implementation of the intervention. Peer led approaches, especially when targeting adolescents, are grounded in the assumption that peers (compared to adults) are more likely to influence each other, learn from each other and make positive behaviour changes when group members that are liked and trusted make changes (Aggleton and Campbell, 2000; Campbell, 2004; Fee and Youssef, 1996; Shiner, 1999; Turner and Shepherd, 1999). It is argued that when implemented well, peer education interventions can offer safe spaces for adolescents to discuss issues and topics that are not sufficiently addressed elsewhere such as in their homes, communities and relationships, or considered taboo or unspeakable in other contexts (Swartz et al., 2012). Peer led approaches have also been cited as being more effective than adult led approaches when targeting vulnerable young people (Chandra-Mouli, Lane and Wong., 2015) with some evidence highlighting that adolescents are more likely to engage in discussions after peer led sessions compared to sessions led by adults (Rickert, Jay & Gottlieb 1991).

In the context of the RISE intervention however, AGYW positive perceptions of adult facilitators stand in contrast to this and illustrate that in some instances adults may be well positioned to offer advice, support and information. A previous review of peer-led interventions to reduce HIV risk of youth showed that in several studies youth preferred receiving information, especially medical information from adults who they perceived to be more knowledgeable than their peers (Maticka-Tyndale and Barnett, 2010). In this study, AGYW also surfaced their hesitancy to share information with their peers due to confidentiality concerns, with a reference to peers gossiping

outside of the group sessions. This highlights a potential limitation of the peer led approach. Strategies to maintain privacy and confidentiality should be factored in when implementing future interventions.

Increased SRH information and better decision making

Secondly, our findings suggest that with the implementation of combination prevention interventions such as RISE, that AGYW can increase their SRH knowledge resulting in better decision making.

Prior to the RISE intervention, AGYW understanding of how HIV and STIs are transmitted was minimal, their perceived susceptibility to HIV was low and their mistrust and misconceptions of contraceptives were high. AGYW attributed the avoidance of safe sex practices such as non-use of contraception to multiple factors, including unpleasant experiences at health care facilities, peer and partner influence, lack of accurate, comprehensive sexuality education/information as well as having a general mistrust in contraceptives. Similar to other research, rather than citing health care providers as sources of information, AGYW commonly referred to family members, peers and partners as their main sources of information on contraceptives (McManus and Dhar, 2008; Visser et al., 2004).

In several of the FGD's and IDI's AGYW referenced sexual decision making as a process out of their control, dominated by their male partners who considered contraceptives boring or as inflicting pain during sexual intercourse. As a result many of the recipients reported engaging in the non-use of contraceptives. Intervention recipients also gave examples of being pressured by partners to have sexual intercourse, perceiving themselves as having less power to discuss and negotiate contraceptive use. Sexual power and condom use consistency has been shown to have a strong association. Evidence shows women with low relationship control are more likely to be inconsistent condom users, which is also significantly associated with HIV infection (Pettifor et al., 2004).

In this study, misconceptions played a considerable role in determining AGYW's decision to not use prevention, including the belief that they would experience physical side effects such as weight gain, experience infertility, or still get pregnant despite using contraceptives. These findings are in line with other studies that show fear of side effects can be a major barrier to use (Ochako, 2015; Hindin, McGough and Adanu, 2014). In this study, many of the AGYW referenced informal sources such as their friends, families and partners as sources of information and as a deciding factor regarding their decision to use or not use contraceptives. This supports evidence which shows that misinformation about contraceptives are commonly spread through social networks and that often women rely on their networks to make decisions about using contraceptives, rather than making decisions in isolation (Behrman, Kohler and Watkins, 2002; Yee and Simon, 2010).

Our findings suggest that with the implementation of combination prevention interventions such as RISE, that levels of awareness of the need for sexual risk reduction amongst AGYW can increase. Attributing to their participation in the RISE intervention, recipients perceived themselves as being more knowledgeable and informed about sexually transmitted diseases such as HIV/AIDS, reporting a heightened understanding of their susceptibility to HIV and how this related to safe sex practices and contraceptive use. Becoming more informed and increasing their knowledge about HIV transmission helped promote health seeking behaviour and positive decision making. Specifically, AGYW highlighted their desire to get tested and know their HIV status, use preventative contraceptive methods to avoid teenage pregnancy and exposure to STI's and perceived themselves as being more confident and willing to negotiate and practice safe sex with their partners. These findings supports previous research which has show that SRH and peer education programmes can result in positive outcomes for AGYW, resulting in increased knowledge about HIV/AIDS and decreasing adolescent pregnancy as well as encouraging positive behaviour changes such as using condoms to prevent HIV infection and delaying sexual debut (Salam et al., 2016. Chandra-Mouli, et al., 2015; Michielsen et al.,2012; Visser, 2007).

Overall, these findings not only emphasize AGYW vulnerability to HIV incidence but also that there is a complex myriad of factors influencing AGYW sexual and reproductive health that need to be addressed when designing interventions. To maintain their sexual and reproductive health, adolescents need to have their contraceptive needs acknowledged and responded to, and be informed and empowered to protect themselves from STIs such as HIV (Salam et al., 2016). Incorporating behavioural and structural components to address these factors should be prioritized as part of future HIV combination prevention packages.

Improved Self Esteem and Self Efficacy

Thirdly, similar to other South African studies (Mantell et al., 2006) our findings highlight how perceived gender inequalities contribute to risky sexual behaviours and impact AGYW well being, specifically their self esteem¹⁶. Prior to their participation in the intervention, many AGYW reported low self esteem and negative concepts of themselves, often positioning it relative to their gender. AGYW perceived themselves to hold an inferior social status compared to men, citing feelings of being subordinate and of less worth, as well as lacking in confidence to make decisions about their SRH relative to male partners. Evidently, the behaviour and decisions of AGYW were situated within unequal and hierarchical gender related beliefs and practices, made evident by AGYW attempts to adopt male roles such as dressing up as boys or mimicking the behaviour of male peers to fit in and feel more powerful in social settings.

Positive self esteem is seen as a protective factor that contributes to better health and positive social behaviour whereas low self esteem is a risk factor that can negatively impact physical and mental health (Mann et al., 2004). Self-efficacy on the other hand, can be described as having confidence in one's own ability to perform a particular behavior (Sayles et al., 2006). Rooted in Bandura's social cognitive theory (1977, 1986) it refers to "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (Bandura, 1994, p.71). It is considered an important aspect of

¹⁶ The terms self-esteem or self-concept are generally described as the feelings and concepts people have about themselves (Mann et al., 2004).

health related behavioural change and is affected by different factors such as communication with family and community members, knowledge and social norms (Bandura, 2004; Sayles et al., 2006). It is these factors which had a considerable impact on the self efficacy and self esteem of AGYW, with many perceiving themselves as unable to control and maintain their SRH prior to their participation in the intervention.

Arguably, the RISE intervention played a “transformative role” in the lives of AGYW, positively impacting their self esteem and self efficacy by promoting gender equity and encouraging AGYW to change how they view gender roles and themselves (Jewkes and Morrell, 2010). References to improvements in “self love”, “self confidence” and “self respect” repeatedly surfaced during the IDI’s and FGDs, with AGYW perceiving themselves more empowered and equipped with the skills needed for better decision making and navigating healthy sexual relationships with male partners. Examples included increased confidence in negotiating and engaging in condom use and delaying the initiation of sexual intercourse with romantic partners. These examples of positive behavior changes reinforce findings from other studies in South Africa showing that young women with more equitable gender norms are more likely to use condoms compared to those with less equitable gender norms (Fladseth et al., 2015). It also illustrates a need for comprehensive HIV prevention strategies that address barriers to contraceptive use and the norms that support them.

The role of self esteem and its impact on risky behaviour has surfaced in previous research (Enejoh et al., 2016; Peltzer and Promtussananon, 2005) with low self esteem being associated with greater HIV risk behaviour. A study by Somlai et al (2000) looking at AIDS-specific attitudes associated with HIV risk behavior among disadvantaged inner city women found that women at highest risk of HIV scored lower in self esteem and held personal views that were more negative compared to women at lower risk for HIV. Conversely, higher self esteem has been associated with protective behaviours such greater condom use (McNair, Carter and Williams, 1998). Research in South Africa has found that low self esteem is associated with risk

behaviours such as earlier sexual debut and having more sexual partners (Perkel, Strebel and Joubert, 1991; Perkel, 1991). And evidence shows that having multiple partners is consistently associated with higher levels of HIV acquisition in Southern Africa (Shisana et al., 2012; Lopman et al., 2008).

Based on the evidence in the literature and our own findings that show perceived improvements in self esteem and self efficacy among AGYW after participating in the RISE intervention, we suggest that interventions focused on HIV risk reduction among high risk populations such as AGYW, should consider incorporating self-esteem-building components with a “gender transformative” approach which actively seeks to transform harmful gender norms (Dworkin, Treves-Kagan and Lippman, 2013).

Negative impact of the intervention

Lastly, our findings suggest that not all aspects of the RISE intervention were positively perceived. The impact of operational and logistical challenges including the planning and timing of RISE activities as well as getting to and from the sessions limited the accessibility of the intervention and impacted the involvement of learners in the intervention. These challenges are not unique to this intervention, with logistical aspects of HIV prevention and service delivery being identified as a major constraint to scaling interventions globally (Xiong, Wei et al., 2008)

The findings also suggest that combination interventions aimed at preventing HIV incidence in specific populations such as AGYW could be strengthened by incorporating young men too. While gender inequality disproportionately affects women and HIV incidence continues to disproportionately affect women compared to men, addressing it requires working with both men and women (UNAIDS, 2016; Dunkle and Jewkes, 2007). To protect women from HIV infection we must find ways to empower them through programmes and policies which increase access to education, SRH information, economic and political resources as well as social support which allows women to meet in groups and gain practical solutions from each other (Gupta, 2002;

Dworkin, Treves-Kagan and Lippman, 2013). At the same time, intervention efforts promoting sexual and family responsibility should also be aimed at young boys and men (Gupta, 2002).

Dunkle and Jewkes (2007) argue that effective HIV prevention requires work with boys and men which should challenge and actively transform harmful gender norms that legitimize male power, control and risk taking. An evaluation of a gender transformative intervention such as the Stepping Stones programme in South Africa, illustrate how efforts to transform gender roles and promote more gender equitable relationships between men and women can positively affect risk factors for HIV in young women and men (Jewkes et al., 2008). Findings show that while the programme did not lower incidence of HIV it did reduce male perpetration of intimate partner violence and increase condom use (Jewkes et al., 2008). In promoting such changes not only amongst intervention recipients but also amongst boys and young men, we argue that the RISE programme could have been more positively received and perceived to be more impactful by AGYW in this study.

Limitations

The potential for social desirability bias¹⁷ should also be taken into consideration. While IDI's and FGDs were conducted in different sites, intervention recipients knew each other and may have reported answers that displayed themselves in a positive manner compared to other participants in the FGDs, potentially also avoiding answers that may have been deemed socially undesirable (Neely and Cronley, 2004). Additionally, the long term impact of the RISE intervention on the lives of AGYW remains questionable. Further research to examine whether sustained impacts are perceived in years to come is warranted given the considerable resources needed to develop and implement peer led interventions and the limited empirical support for the efficacy of such interventions (Simoni et al., 2011).

¹⁷ According to Neely and Cronley (2004, p.432) Social desirability bias “ reflects the basic human nature to present oneself in a positive manner to others” with a tendency for “over-reporting opinions and behaviors that are congruent with values deemed socially acceptable and under-reporting those deemed socially undesirable”

Selection Bias

Another limitation of the study design is that measures to prevent selection bias were not explicitly addressed by the researchers. Only direct recipients of the intervention as well as a control group were included in the sample selection. No reference was made to broadening the sample to include participants that were invited to participate but chose not to, or those who had dropped out or did not like the program. Arguably, if this was not taken into consideration, the results of the program would be biased as the majority of respondents were those who had completed or liked the program would be more inclined to report positive impacts as opposed to those who dropped out of the intervention.

Peer led education model

One limitation that should be noted was highlighted in an earlier process evaluation of one of the intervention components, was that implementation of the peer-group model was inconsistent across sites and implementing partners, and in some cases club facilitators, who were initially supposed to be trained “peer-educators”, were not of a similar age to the AGYW, and sessions were more didactic and adult-delivered than the intervention designers intended (Clacherty et al., 2019). In the intervention design, clubs were initially intended to be facilitated by “learner peer educators”, who were to receive training to run the sessions, with facilitation assistance from a school teacher/educator. However, in reality, implementation of the intervention components varied among implementing partners, due to various structural and contextual challenges such as attrition and lack of capacity (Clacherty et al., 2019). In some cases the staff who were intended to provide training to the peer educators delivered the sessions themselves, instead of a learner peer educator (Clacherty et al., 2019). As such, the peer-group clubs were, on the whole, organised by the AGYW themselves, with assistance and support from a facilitator.

Conclusion

Given the urgent need to identify strategies that effectively reduce HIV risk among adolescent girls and young women, it is crucial to understand how best to maximize the positive impacts

and address the potential negative impacts of combination HIV prevention interventions. By exploring the perspectives of intervention recipients, it enabled an in-depth understanding of the challenges AGYW face in their social environments, how this impacts their behaviour and their health outcomes, and gave insight into how the intervention was perceived to change this. While the narratives of AGYW described in this study reflect mostly positive impacts of the RISE intervention such as increased SRH knowledge resulting in positive behaviour change and improved communications skills resulting in higher sexual self efficacy, it also highlights the underlying factors that put AGYW at greater risk. In the context of this study, the impact of structural, social and economic factors, such as stigma and discrimination, poverty, restrictive gender norms as well as unequal access to education and health care facilities, all played a considerable role in AGYW's relationships, shaping their decision making and how they access SRH services and information. Ultimately, this research underscores the need for combination HIV prevention strategies. Because, no matter how empowered or knowledgeable AGYW perceived themselves to be after participating in the intervention, unless underlying factors are addressed, HIV prevention efforts to reduce HIV risk will not be as effective (TAC, 2017). Instead these factors in isolation or combination, may create or compound vulnerability to HIV (UNAIDS, 2007).

Study implications

It is important to note that the perceived impacts of this intervention, which was population and context specific does not necessarily imply that it will translate or work in a similar manner in another setting. It does however provide a basis from which similar interventions can be developed or adapted from, rather than starting from scratch. The accounts provided by AGYW of the intervention implementation gave unique insights that would not have been uncovered otherwise. By engaging AGYW and taking into account their perspectives, researchers could benefit from seeing the young women as partners in the design and implementation of future interventions (Dellar et al., 2015).

Abbreviations

AIDS: Acquired Immune Deficiency Syndrome

AGYW: Adolescent Girls and Young Women

FGD: Focus Group Discussion

GF: Global Fund

HIV: Human immunodeficiency virus infection

IDI: In-depth Interview

RYWC: Rise Young Women's Clubs

SANAC: South Africa National AIDS Council

SAMRC: South African Medical Research Council

SIDI: Serial In-depth Interview

SRH: Sexual and Reproductive Health

STIs: Sexually Transmitted Infections

WHO: World Health Organization

Acknowledgements

The authors would like to thank the young girls and women who participated in this study and the research team who collected the data. Without them, this study would not have been possible.

Funding

The AGYW intervention was funded by the Global Fund to Fight AIDS, TB and Malaria. This research has been supported by the President's Emergency Plan for AIDS Relief (PEPFAR) through The Centers for Disease Control and Prevention under the terms of Cooperative Agreement #6NU2GGH001150, the Social Impact Bond Study of the South African Medical Research Council. The findings and conclusions in this study are those of the author(s) and do not necessarily represent the official position of the funding agencies.

Availability of data and materials

The focus group discussion and in-depth interview data is not available for sharing, as consent to share or archive was not obtained from the participants in this study.

Authors' contributions

All authors participated in the conception and design of the study

KJ, KM collected the data

WV, ZD performed the data analysis and interpretation of the data

WV, ZD, AS contributed to analysis, interpretation of results and the writing of the manuscript.

All authors participated in the reviewing of the manuscript drafts until the content was satisfactory for submission.

Ethics approval and consent to participate

Written informed consent was obtained from all participants prior to data collection and the study was approved by the South African Medical Research Council Human Research Ethics Committee (reference number: EC036-11/2016), the Human Research Ethics Committee (Medical) at the University of Cape Town (reference number: REC-210108-007).

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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References

Aggleton, P. and Campbell, C., 2000. Working with young people-towards an agenda for sexual health. *Sexual and Relationship Therapy*, 15(3), pp.283-296.

Aggleton, P., Davies, P. and Hart, G. eds., 2003. *AIDS: responses, interventions and care*. Routledge.

AVAC. 2018. Breaking the cycle of transmission: Increasing adoption of and adherence to effective HIV prevention among high-risk adolescent girls and young women (pp. 1–44).

Bandura, A., 1977. Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, 84(2), p.191.

Bandura, A. 1994. Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71-81). New York: Academic Press. (Reprinted in H. Friedman [Ed.], *Encyclopedia of mental health*. San Diego: Academic Press, 1998).

Bandura, A., 2004. Health promotion by social cognitive means. *Health education & behavior*, 31(2), pp.143-164.

Bastien, S., Kajula, L.J. and Muhwezi, W.W., 2011. A review of studies of parent-child communication about sexuality and HIV/AIDS in sub-Saharan Africa. *Reproductive health*, 8(1), p.25.

Behrman, J.R., Kohler, H.P. and Watkins, S.C., 2002. Social networks and changes in contraceptive use over time: Evidence from a longitudinal study in rural Kenya. *Demography*, 39(4), pp.713-738.

Burgard S. 2004. Factors associated with contraceptive use in lateor post-apartheid South Africa. *Studies in Family Planning*, 35(2):91–104.

Campbell, C. and MacPhail, C., 2002. Peer education, gender and the development of critical consciousness: participatory HIV prevention by South African youth. *Social science & medicine*, 55(2), pp.331-345.

Campbell, C., Foulis, C.A., Maimane, S. and Sibiya, Z., 2005. “I have an evil child at my house”: Stigma and HIV/AIDS management in a South African community. *American journal of public health*, 95(5), pp.808-815.

Chandra-Mouli, V., Lane, C. and Wong, S., 2015. What does not work in adolescent sexual and reproductive health: a review of evidence on interventions commonly accepted as best practices. *Global Health: Science and Practice*, 3(3), pp.333-340.

Chimere-Dan O. 1996. Contraceptive prevalence in South Africa. *International Family Planning Perspectives*, 22(1):4–9.

Chinsebu, K.C., 2009. Sexually transmitted infections in adolescents. *The Open Infectious Diseases Journal*, 3(1), pp.107-117.

Collumbien, M., Busza, J., Cleland, J.G., Campbell, O. and World Health Organization, 2012. *Social science methods for research on sexual and reproductive health*.

Dellar, R.C., Dlamini, S. and Karim, Q.A., 2015. Adolescent girls and young women: key populations for HIV epidemic control. *Journal of the International AIDS Society*, 18, p.19408.

Dellar, R., Waxman, A. and Karim, Q.A., 2015. Understanding and responding to HIV risk in young South African women: Clinical perspectives. *South African Medical Journal*, 105(11), p.952.

Dickson-Tetteh K, Pettifor A, Moleko W. 2001. Working with public-sector clinics to provide adolescent-friendly services in South Africa. *Reproductive Health Matters*, 9(17), pp. 160–69.

Dunbar, M.S., Dufour, M.S.K., Lambdin, B., Mudekunya-Mahaka, I., Nhamo, D. and Padian, N.S., 2014. The SHAZ! project: results from a pilot randomized trial of a structural intervention to prevent HIV among adolescent women in Zimbabwe. *PLoS One*, 9(11), p.e113621.

Dunkle, K.L. and Jewkes, R., 2007. Effective HIV prevention requires gender-transformative work with men.

Dutra R, Miller KS, Forehand R. 1999. The process and content of sexual communication with adolescents in two-parent families: Associations with sexual risk-taking behavior. *AIDS and Behavior*, 3(1), pp.59–66.

Dworkin, S.L. and Ehrhardt, A.A., 2007. Going beyond “ABC” to include “GEM”: critical reflections on progress in the HIV/AIDS epidemic. *American journal of public health*, 97(1), pp.13-18.

Dworkin, S.L., Treves-Kagan, S. and Lippman, S.A., 2013. Gender-transformative interventions to reduce HIV risks and violence with heterosexually-active men: a review of the global evidence. *AIDS and Behavior*, 17(9), pp.2845-2863.

Fladseth, K., Gafos, M., Newell, M.L. and McGrath, N., 2015. The impact of gender norms on condom use among HIV-positive adults in KwaZulu-Natal, South Africa. *PLoS One*, 10(4), p.e0122671.

Gibbs, A., Willan, S., Misselhorn, A. and Mangoma, J., 2012. Combined structural interventions for gender equality and livelihood security: a critical review of the evidence from southern and eastern Africa and the implications for young people. *Journal of the International AIDS Society*, 15, pp.1-10.

Granich, R., Gupta, S., Hersh, B., Williams, B., Montaner, J., Young, B., & Zuniga, J. M. (2015). Trends in AIDS Deaths, New Infections and ART Coverage in the Top 30 Countries with the Highest AIDS Mortality Burden; 1990-2013. *PloS one*, 10(7), e0131353.
doi:10.1371/journal.pone.0131353

Gupta, G.R., 2000. Gender, sexuality, and HIV/AIDS: The what, the why, and the how. *Can HIV AIDS Policy Law Rev*, 5(4), pp.86-93.

Gupta, G.R., 2002. How men's power over women fuels the HIV epidemic: It limits women's ability to control sexual interactions.

Harden, A., Oakley, A. and Oliver, S., 2001. Peer-delivered health promotion for young people: a systematic review of different study designs. *Health Education Journal*, 60(4), pp.339-353.

Harman, S., 2011. The dual feminisation of HIV/AIDS. *Globalizations*, 8(2), pp.213-228.

Hillier, L., Harrison, L. and Warr, D., 1998. "When you carry condoms all the boys think you want it": Negotiating competing discourses about safe sex. *Journal of adolescence*, 21(1), pp.15-29.

Hindin, M.J., McGough, L.J. and Adanu, R.M., 2014. Misperceptions, misinformation and myths about modern contraceptive use in Ghana. *J Fam Plann Reprod Health Care*, 40(1), pp.30-35.

Jewkes, R., Penn-Kekana, L., Levin, J., Ratsaka, M. and Schrieber, M., 2001. Prevalence of emotional, physical and sexual abuse of women in three South African provinces. *South African medical journal*, 91(5), pp.421-428.

Jewkes, R., Nduna, M., Levin, J., Jama, N., Dunkle, K., Puren, A. and Duvvury, N., 2008. Impact of stepping stones on incidence of HIV and HSV-2 and sexual behaviour in rural South Africa: cluster randomised controlled trial. *Bmj*, 337, p.a506.

Jewkes, R.K., Dunkle, K., Nduna, M. and Shai, N., 2010. Intimate partner violence, relationship power inequity, and incidence of HIV infection in young women in South Africa: a cohort study. *The lancet*, 376(9734), pp.41-48.

Jewkes, R. and Morrell, R., 2010. Gender and sexuality: emerging perspectives from the heterosexual epidemic in South Africa and implications for HIV risk and prevention. *Journal of the International AIDS society*, 13(1), p.6.

Joint United Nations Programme on HIV/AIDS (UNAIDS), 2016. HIV prevention among adolescent girls and young women. *Geneva, Switzerland*.

Kalichman, S.C., Simbayi, L.C., Kaufman, M., Cain, D., Cherry, C., Jooste, S. and Mathiti, V., 2005. Gender attitudes, sexual violence, and HIV/AIDS risks among men and women in Cape Town, South Africa. *Journal of sex research*, 42(4), pp.299-305. [[PubMed](#)] [[Google Scholar](#)]

Karim, Q.A. and Dellar, R., 2014. Inclusion of adolescent girls in HIV prevention research—an imperative for an AIDS-free generation. *Journal of the International AIDS Society*, 17(1).

Karim, Q.A., Sibeko, S. and Baxter, C., 2010. Preventing HIV infection in women: a global health imperative. *Clinical Infectious Diseases*, 50(Supplement_3), pp.S122-S129.

Lesch, E. and Kruger, L.M., 2005. Mothers, daughters and sexual agency in one low-income South African community. *Social Science & Medicine*, 61(5), pp.1072-1082. [[Google Scholar](#)]

Lopman, B., Nyamukapa, C., Mushati, P., Mupambireyi, Z., Mason, P., Garnett, G.P. and Gregson, S., 2008. HIV incidence in 3 years of follow-up of a Zimbabwe cohort—1998–2000 to 2001–03: contributions of proximate and underlying determinants to transmission. *International journal of epidemiology*, 37(1), pp.88-105.

Manandhar, M., Hawkes, S., Buse, K., Nosrati, E. and Magar, V., 2018. Gender, health and the 2030 agenda for sustainable development. *Bulletin of the World Health Organization*, 96(9), p.644.

Mantell, J.E., Harrison, A., Hoffman, S., Smit, J.A., Stein, Z.A. and Exner, T.M., 2006. The Mpondombili project: Preventing HIV/AIDS and unintended pregnancy among rural South African school-going adolescents. *Reproductive health matters*, 14(28), pp.113-122.

Marston, C. and King, E., 2006. Factors that shape young people's sexual behaviour: a systematic review. *The lancet*, 368(9547), pp.1581-1586.

Maticka-Tyndale, E. and Barnett, J.P., 2010. Peer-led interventions to reduce HIV risk of youth: a review. *Evaluation and program planning*, 33(2), pp.98-112.

Maticka-Tyndale, E. and Brouillard-Coyle, C., 2006. The effectiveness of community interventions targeting HIV and AIDS prevention at young people in developing countries. TECHNICAL REPORT SERIES-WORLD HEALTH ORGANIZATION, 938, p.243.

McManus, A. and Dhar, L., 2008. Study of knowledge, perception and attitude of adolescent girls towards STIs/HIV, safer sex and sex education:(A cross sectional survey of urban adolescent school girls in South Delhi, India). *BMC women's health*, 8(1), p.12.

McNair, L.D., Carter, J.A. and Williams, M.K., 1998. Self-esteem, gender, and alcohol use: Relationships with HIV risk perception and behaviors in college students. *Journal of sex & marital therapy*, 24(1), pp.29-36.

Menna, T., Ali, A., & Worku, A., 2015. Effects of peer education intervention on HIV/AIDS related sexual behaviors of secondary school students in Addis Ababa, Ethiopia: a quasi-experimental study. *Reproductive health*, 12, 84. doi:10.1186/s12978-015-0077-

Mfono, Z., 1998. Teenage contraceptive needs in urban South Africa: a case study. *International family planning perspectives*, 24(4), pp.180-183.

[Link:](#)

Michielsen K, Beauclair R, Delva W, Roelens K, Van Rossem R, Temmerman M., 2012. Effectiveness of a peer-led HIV prevention intervention in secondary schools in Rwanda: results from a non-randomized controlled trial. *BMC Public Health*, 12(1):729. doi:10.1186/1471-2458-12-729. pmid:22938717CrossRefPubMedGoogle Scholar

Miller, K.S., Kotchick, B.A., Dorsey, S., Forehand, R. and Ham, A.Y., 1998. Family communication about sex: What are parents saying and are their adolescents listening?. *Family planning perspectives*, pp.218-235. [[Google Scholar](#)]

Mpondo, F., Ruiter, R. A. C., Schaafsma, D., van den Borne, B., & Reddy, P. S., 2018. Understanding the role played by parents, culture and the school curriculum in socializing young women on sexual health issues in rural South African communities. *SAHARA: Journal of Social Aspects of HIV/AIDS Research Alliance*, 15(1), 42–49.

Murray, S.A., Kendall, M., Carduff, E., Worth, A., Harris, F.M., Lloyd, A., Cavers, D., Grant, L. and Sheikh, A., 2009. Use of serial qualitative interviews to understand patients' evolving experiences and needs. *Bmj*, 339, p.b3702.

Mushwana, L., Monareng, L., Richter, S. and Muller, H., 2015. Factors influencing the adolescent pregnancy rate in the greater Giyani Municipality, Limpopo Province–South Africa. *International Journal of Africa Nursing Sciences*, 2, pp.10-18.

Neeley, S.M. and Cronley, M.L., 2004. When research participants don't tell it like it is: pinpointing the effects of social desirability bias using self vs. indirect-questioning. *Advances in Consumer Research*, 31(1), pp.432-434.

Pettifor, A.E., Measham, D.M., Rees, H.V. and Padian, N.S., 2004. Sexual power and HIV risk, South Africa. *Emerging infectious diseases*, 10(11), p.1996.

Pettifor, A.E., Rees, H.V., Kleinschmidt, I., Steffenson, A.E., MacPhail, C., Hlongwa-Madikizela, L., Vermaak, K. and Padian, N.S., 2005. Young people's sexual health in South Africa: HIV prevalence and sexual behaviors from a nationally representative household survey. *Aids*, 19(14), pp.1525-1534.

Perkel, A. K. 1991. Psychosocial variables in the transmission of AIDS. Unpublished doctoral thesis, University of the Western Cape.

Perkel, A.K., Strebel, A. and Joubert, G., 1991. The psychology of AIDS transmission—issues for intervention. *South African Journal of Psychology*, 21(3), pp.148-152.

Phetla, G., Busza, J., Hargreaves, J.R., Pronyk, P.M., Kim, J.C., Morison, L.A., Watts, C. and Porter, J.D., 2008. “They have opened our mouths”: increasing women's skills and motivation for sexual communication with young people in rural South Africa. *AIDS Education & Prevention*, 20(6), pp.504-518.

Richter, M., Erhart, M., Vereecken, C.A., Zambon, A., Boyce, W. and Gabhainn, S.N., 2009. The role of behavioural factors in explaining socio-economic differences in adolescent health: a multilevel study in 33 countries. *Social science & Medicine*, 69(3), pp.396-403.

Rickert, V.I., Jay, M.S. and Gottlieb, A., 1991. Effects of a peer-counseled AIDS education program on knowledge, attitudes, and satisfaction of adolescents. *Journal of Adolescent Health*, 12(1), pp.38-43.

Swart-Kruger, J., & Richter, L. M., 1997. AIDS-related knowledge, attitudes and behaviour among South African street youth: Reflections on power, sexuality and the autonomous self. *Social Science and Medicine*, 45, 957–966

Salam, R.A., Haroon, S., Ahmed, H.H., Das, J.K. and Bhutta, Z.A., 2014. Impact of community-based interventions on HIV knowledge, attitudes, and transmission. *Infectious diseases of poverty*, 3(1), p.26.

Salam, R.A., Faqqah, A., Sajjad, N., Lassi, Z.S., Das, J.K., Kaufman, M. and Bhutta, Z.A., 2016. Improving adolescent sexual and reproductive health: A systematic review of potential interventions. *Journal of adolescent health*, 59(4), pp.S11-S28.

SANAC (2017). Let our Actions Count: South Africa's National Strategic Plan for HIV, TB and STIs 2017-2022. Page 69-70. Online at http://sanac.org.za/wp-content/uploads/2017/05/NSP_FullDocument_FINAL.pdf

Saul, J., Bachman, G., Allen, S., Toiv, N.F., Cooney, C. and Beamon, T.A., 2018. The DREAMS core package of interventions: a comprehensive approach to preventing HIV among adolescent girls and young women. *PLoS One*, 13(12), p.e0208167.

Sayles, J.N., Pettifor, A., Wong, M.D., MacPhail, C., Lee, S.J., Hendriksen, E., Rees, H.V. and Coates, T., 2006. Factors associated with self-efficacy for condom use and sexual negotiation among South African youth. *Journal of acquired immune deficiency syndromes (1999)*, 43(2), p.226.

Scott-Sheldon, et al., 2011. Efficacy of behavioral interventions to increase condom use and reduce sexually transmitted infections: A meta-analysis, 1991 to 2010. *Journal of Immune Deficiency Syndromes*, 58: 489–498

Scott-Sheldon, L.A., Carey, M.P. and Carey, K.B., 2010. Alcohol and risky sexual behavior among heavy drinking college students. *AIDS and Behavior*, 14(4), pp.845-853.

Sharp, P.M. and Hahn, B.H., 2011. Origins of HIV and the AIDS pandemic. *Cold Spring Harbor perspectives in medicine*, 1(1), p.a006841.

Shisana, O., Rehle, T., Simbayi, L.C., Zuma, K., Jooste, S., Zungu, N., Labadarios, D. and Onoya, D., 2015. South African national HIV prevalence, incidence and behaviour survey, 2012.

Simoni, J. M., Nelson, K. M., Franks, J. C., Yard, S. S., & Lehavot, K. (2011). Are peer interventions for HIV efficacious? A systematic review. *AIDS and behavior*, *15*(8), 1589–1595. doi:10.1007/s10461-011-9963-5

Somlai, A.M., Kelly, J.A., Heckman, T.G., Hackl, K., Runge, L. and Wright, C., 2000. Life optimism, substance use, and AIDS-specific attitudes associated with HIV risk behavior among disadvantaged inner-city women. *Journal of Women's Health & Gender-Based Medicine*, *9*(10), pp.1101-1111.

Sumartojo, E., 2000. Structural factors in HIV prevention: concepts, examples, and implications for research. *Aids*, *14*, pp.S3-S10.

Swartz, S., Deutsch, C., Makoae, M., Michel, B., Harding, J.H., Garzouzie, G., Rozani, A., Runciman, T. and Van der Heijden, I., 2012. Measuring change in vulnerable adolescents: Findings from a peer education evaluation in South Africa. *SAHARA-J: Journal of Social Aspects of HIV/AIDS*, *9*(4), pp.242-254.

Tolli, M.V., 2012. Effectiveness of peer education interventions for HIV prevention, adolescent pregnancy prevention and sexual health promotion for young people: a systematic review of European studies. *Health education research*, *27*(5), pp.904-913.

Türmen, T., 2003. Gender and HIV/aids. *International Journal of Gynecology & Obstetrics*, *82*(3), pp.411-418.

Visser, M.J., 2007. HIV/AIDS prevention through peer education and support in secondary schools in South Africa. *Sahara-J: Journal of Social Aspects of HIV/AIDS*, *4*(3), pp.678-694

UNAIDS A. Trend of New HIV Infections 2018. Trend in New Infections: Eastern, Southern, Western, Central Africa by Sex]. Available from: aidsinfo.unaids.org.

UNAIDS. Fact sheet July 2017. 2017 Jul; <http://www.unaids.org/en/resources/fact-sheet>
Available at: https://www.unaids.org/sites/default/files/media_asset/UNAIDS_FactSheet_en.pdf

UNAIDS. UNAIDS report on the global AIDS epidemic 2013. Geneva, Switzerland 2013.

Available:

http://www.unaids.org/en/media/unaids/contentassets/documents/epidemiology/2013/gr2013/UNAIDS_Global_Report_2013_en.pdf.

UNAIDS. South Africa Country Fact Sheet. 2018. Available:

<https://www.unaids.org/en/regionscountries/countries/southafrica>

UNAIDS. Global HIV & AIDS statistics — 2019 fact sheet. Available:

<https://www.unaids.org/en/resources/fact-sheet>

UNAIDS, 2010. Combination HIV prevention: tailoring and coordinating biomedical, behavioural and structural strategies to reduce new HIV infections. *UNAIDS*.

Available: https://www.unaids.org/sites/default/files/media_asset/JC2007_Combination_Prevention_paper_en_0.pdf

Varga, C.A., 2003. How gender roles influence sexual and reproductive health among South African adolescents. *Studies in family planning*, 34(3), pp.160-172.

Wamoyi, J., Fenwick, A., Urassa, M., Zaba, B. and Stones, W., 2010. Parent-child communication about sexual and reproductive health in rural Tanzania: Implications for young people's sexual health interventions. *Reproductive Health*, 7(1), p.6.

World Health Organization, 2009. Integrating gender into HIV/AIDS programmes in the health sector: tool to improve responsiveness to women's needs.

WHO, 2010. Gender, Women and Primary Health Care Renewal. Discussion Paper. Geneva: WHO.

Wood K, Maforah F, Jewkes R. “He forced me to love him”: putting violence on the adolescent sexual health agenda. *Social Science and Medicine* 1998;47:233–42.

Xiong, Wei et al. “Can modeling of HIV treatment processes improve outcomes? Capitalizing on an operations research approach to the global pandemic.” *BMC health services research* vol. 8 166. 4 Aug. 2008, doi:10.1186/1472-6963-8-166

Yee, L. and Simon, M., 2010. The role of the social network in contraceptive decision-making among young, African American and Latina women. *Journal of Adolescent Health*, 47(4), pp.374-380.

Appendices

Appendix I:

Information sheet: Young Women and Girls: Qualitative interviews and focus group discussions:
15-17 years

Title of Research Project: *Evaluation of the Global Fund Young Women and Girls Intervention*

1. Introduction

Good day. My name is _____. I work for SAMRC. We are an organization that conducts research to improve the health of South Africans. We invite you today to take part in a study on young women and girls' health in South Africa. The study is being led by scientists at the South African Medical Research Council together with other scientists in South Africa. This study is sponsored by the Centers for Disease Control and Prevention (CDC).

2. Why are we doing this study?

We know young women and girls are vulnerable to sexual and reproductive health problems. They face challenges in deciding when and with who they want to have sex, avoiding pregnancy until they are ready, and avoiding sexually transmitted infections including HIV. More needs to be done to support young women and girls. We are doing this study to find out whether or not programmes on HIV and other related sexual reproductive health issues are helping young women and girls in our communities. This information will help government and its partners understand whether these current programmes are working and what needs to be changed to further help other young women and girls in South Africa.

3. Why have I been chosen to take part in this study?

You have been invited to participate in this study because you: (read appropriate part)

- Have been part of the Rise Clubs
- Have been part of the Keeping Girls at School programme
- Are from a community in which some of these programmes have been taking place.

The facilitators of one of those programmes referred us to you, because you indicated you might like to be part of the study. We are inviting you to be interviewed, or take part in a focus group discussion.

4. What will happen if I decide to take part in this study?

- All parts of this study will take place at a convenient location (e.g., a nearby community hall).
- If you agree to take part in this study, you will be asked to be involved in either a (choose appropriate):
 - *Once off individual interview*
 - *Multiple individual interviews over time*
 - *Focus group discussion*

- An individual interview is when someone asks you questions and you give answers about your views, experiences and opinions. Interviews usually take no more than 1 hour (60 minutes). I and/or my other colleagues will ask questions about HIV, pregnancy, general health and school.
- Multiple individual interviews would mean that the same interviewer comes back three times to interview you over a period of time.
- A focus group discussion would mean that you are in a group of other 8 to 10 people like you, and you sit together with an interviewer and discuss topics and answer questions as a group.
- You will be able to speak to a fieldworker who will be available for you as soon as you have completed the interview or focus group discussion.
- Your name will not be put on the documents or next to any of the responses you give. Instead, you will be given a unique study number that will identify your responses. We will not link your name to the information we collect.
- If you agree to take part, the interview or focus group discussion will be voice-recorded on an electronic device. The voice-recorded file will be copied onto a secure harddrive and then deleted from the device. The voice-recording file from the interview will be labelled with your unique study number. We will not label it with your name. Researchers working on the project will listen to the recording and write down all the information.

5. What are your rights?

You can decide if you want to take part in the study or not. You can choose NOT to take part in this study, and this will not affect the treatment and care you receive from your school, community, clinic or hospital. If you agree to take part now, you can stop taking part at any

time later and this will not affect the treatment and care you receive from your school, community, clinic or hospital. You can ask questions about this study.

6. What could happen to me if I take part in this study?

Some questions we ask you might be hard to answer. We may ask you some questions that cause you to feel embarrassed or uncomfortable. You can choose not to answer questions or take part in the discussion at any time. We will not force you to answer anything you cannot or do not want to answer. Having to attend the interview or focus group discussion can be difficult and might mean that you need to arrange for someone to cover your household chores, or you might have to arrange and pay for transportation to the venue. If you are involved in a focus group discussion, it is important to remember that there will be other people present. All participants will be requested to keep all discussions confidential. There is a possibility that other participants in the group discussion might repeat things outside the group, even though they will be requested to keep everything that is discussed confidential. If any of the discussions that we have upset you or bring up any traumatizing issues for you and you feel you need to speak to someone, we will arrange for you to be referred to a relevant community-based organization that provides counseling and support services.

7. If I take part in the study how will it help me?

There are no immediate benefits to you if you take part. However, the information that we get from you in this study will be used to tell us more about how to support the health of young women and girls in South Africa. You will be able to speak to a trained fieldworker about what it was like to take part in the research study or anything that is troubling you.

8. Will I get anything for taking part in this study?

You will be reimbursed for the time you spend participating in this study with a gift to the value of approximately R50.

1. Will the information I give be kept private?

- Information that we collect will be kept on computer file that will be protected by a password that only researchers working on the project will know. Information that you give us will NOT be seen by other participants, your friends, teachers, parent/guardian/foster parent/caregiver, or school health and clinic staff.
- Any information that you give us will have a study number on it instead of your name.
- Information we get from this study that can be identified with you will be kept safely and in a private place.
- Information from this study will be presented at meetings and published so that the information can be useful to others. This information will not contain your name.
- If you tell us that you plan to hurt a person, I will need to take steps to protect that person. Also, if you tell us that you believe a person is going to harm you, steps will be taken to protect you. If you tell us about feelings related to wanting to take your life, or that a child or elderly person is in danger, actions may be taken to protect others and you. If we suspect, or if you tell us that you or someone else has been neglected, or physically or sexually abused, we will have to report it to the authorities such as child welfare or the police. If you inform us that you are involved in, or have been involved in, sexual activities with someone under the age of 16 (even with their consent), South African law requires that we report it to the police for investigation. However, if you and your sex partner(s) are 12 years of age and above, and no more than two years apart in age, and you indicate that your sexual activities with your partner(s) was or is consensual, we do not need to report it.

9. Who do I contact if I have any questions about this study?

- *If you have any questions about the interview you may contact one of the researchers:*
- Senior researcher (TBC): Tel: _____, E-mail: _____

- *If you have any questions about the study you may contact the principal investigator:*
- Dr. Catherine Mathews- South African Medical Research Council, PO Box 19070, Tygerberg, 7505. Tel. 021-938 0454, E-mail: cathy.mathews@mrc.ac.za
- *If you have any problems with the way the study was done/concerns about your rights in the study you may contact the research ethics committee which have approved this study:*
- Adri Labuschagne- South African Medical Research Council, PO Box 19070, Tygerberg 7505, Western Cape South Africa, Tel: 021 938 0687, E-mail: adri.labuschagne@mrc.ac.za

INFORMED VOLUNTARY CONSENT FORM

For 15-17 year old to complete

I, _____ (*name and surname of 15-17 year old*) have had all of the above Information explained and I understand the explanation. I have been given answers to my questions about the procedures involved in the study.

- My parent/caregiver has given me permission to decide to participate in this study and I have been shown the consent where they signed
- I AGREE to participate in this study and I have received a copy of the information sheet

(Please mark with an X and then complete, sign and date below)

I agree to be involved in the following interview (please mark with an X):

- *One-on-one interview*

- I understand why the interview will be voice-recorded and how my confidentiality will be protected (*please mark with an X*).
- I DO NOT AGREE to the interview being voice-recorded.
- I AGREE to the interview being voice-recorded.

Signature of 15-17 year old: _____

Today's date: _____ (day)/ _____ (month) / _____ (year)

If participant is unable to sign:

Name and surname of witness: _____

Signature of witness: _____

Today's date: _____ (day)/ _____ (month) / _____ (year)

Statement by or on Behalf of the Investigators

I _____ (*researcher's name and surname*)

declare that I have explained the information given in this document to the participant.

She was encouraged and given ample time to ask me questions. Our conversation was conducted in

English/Afrikaans/Xhosa/Sesotho/Zulu/Swati (please encircle) and no translator was used.

Was a copy of the signed copy given to the participant?

- Yes
- No: If no, why not: _____

Signature of researcher: _____

Today's date: _____ (day)/ _____ (month) / _____ (year)

Appendix 2:

Information sheet: Qualitative interviews and focus group discussions: 18-24 years

Title of Research Project: *Evaluation of the Global Fund Young Women and Girls Intervention*

Introduction

Good day. My name is _____. I work for SAMRC. We are an organization that conducts research to improve the health of South Africans. We invite you today to take part in a study on young women and girls' health in South Africa. The study is being led by scientists at the South African Medical Research Council together with other scientists in South Africa. This study is sponsored by the Centers for Disease Control and Prevention (CDC).

1. Why are we doing this study?

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You have been invited to participate in this study because you: (read appropriate part)

- Have been part of the Rise Clubs
- Have been part of the Keeping Girls at School programme
- Are from a community in which some of these programmes have been taking place.

The facilitators of one of those programmes referred us to you, because you indicated you might like to be part of the study. We are inviting you to be interviewed, or take part in a focus group discussion.

3. What will happen if I decide to take part in this study?

- All parts of this study will take place at a convenient location (e.g., a nearby community hall).
- If you agree to take part in this study, you will be asked to be involved in either a (choose appropriate):

- *Once off individual interview*
 - *Multiple individual interviews over time*
 - *Focus group discussion*
- An individual interview is when someone asks you questions and you give answers about your views, experiences and opinions. Interviews usually take no more than 1 hour (60 minutes). I and/or my other colleagues will ask questions about HIV, pregnancy, general health and school.
 - Multiple individual interviews would mean that the same interviewer comes back three times to interview you over a period of time.
 - A focus group discussion would mean that you are in a group of other 8 to 10 people like you, and you sit together with an interviewer and discuss topics and answer questions as a group.
 - You will be able to speak to a fieldworker who will be available for you as soon as you have completed the interview or focus group discussion.
 - Your name will not be put on the documents or next to any of the responses you give. Instead, you will be given a unique study number that will identify your responses. We will not link your name to the information we collect.
 - If you agree to take part, the interview or focus group discussion will be voice-recorded on an electronic device. The voice-recorded file will be copied onto a secure harddrive and then deleted from the device. The voice-recording file from the interview will be labelled with your unique study number. We will not label it with your name. Researchers working on the project will listen to the recording and write down all the information.

4. What are your rights?

You can decide if you want to take part in the study or not. You can choose NOT to take part in this study, and this will not affect the treatment and care you receive from your school, community, clinic or hospital. If you agree to take part now, you can stop taking part at any time later and this will not affect the treatment and care you receive from your school, community, clinic or hospital. You can ask questions about this study.

5. What could happen to me if I take part in this study?

Some questions we ask you might be hard to answer. We may ask you some questions that cause you to feel embarrassed or uncomfortable. You can choose not to answer questions or take part in the discussion at any time. We will not force you to answer anything you cannot or do not want to answer. Having to attend the interview or focus group discussion can be difficult and might mean that you need to arrange for someone to cover your household chores, or you might have to arrange and pay for transportation to the venue. If you are involved in a focus group discussion, it is important to remember that there will be other people present. All participants will be requested to keep all discussions confidential. There is a possibility that other participants in the group discussion might repeat things outside the group, even though they will be requested to keep everything that is discussed confidential. If any of the discussions that we have upset you or bring up any traumatizing issues for you and you feel you need to speak to someone, we will arrange for you to be referred to a relevant community-based organization that provides counseling and support services.

6. If I take part in the study how will it help me?

There are no immediate benefits to you if you take part. However, the information that we get from you in this study will be used to tell us more about how to support the health of young women and girls in South Africa. You will be able to speak to a trained fieldworker about what it was like to take part in the research study or anything that is troubling you.

7. Will I get anything for taking part in this study?

You will be reimbursed for the time you spend participating in this study with a gift to the value of approximately R50.

8. Will the information I give be kept private?

- Information that we collect will be kept on computer file that will be protected by a password that only researchers working on the project will know. Information that you give us will NOT be seen by other participants, your friends, teachers, parent/guardian/foster parent/caregiver, or school health and clinic staff.
- Any information that you give us will have a study number on it instead of your name.
- Information we get from this study that can be identified with you will be kept safely and in a private place.
- Information from this study will be presented at meetings and published so that the information can be useful to others. This information will not contain your name.
- If you tell us that you plan to hurt a person, I will need to take steps to protect that person. Also, if you tell us that you believe a person is going to harm you, steps will be taken to protect you. If you tell us about feelings related to wanting to take your life, or that a child or elderly person is in danger, actions may be taken to protect others and you. If we suspect, or if you tell us that you or someone else has been neglected, or physically or sexually abused, we will have to report it to the authorities such as child welfare or the police. If you inform us that you are involved in, or have been involved in, sexual activities with someone under the age of 16 (even with their consent), South African law requires that we report it to the police for investigation. However, if you and your sex partner(s) are 12 years of age and above, and no more than two years apart in age, and you indicate that your sexual activities with your partner(s) was or is consensual, we do not need to report it.

Who do I contact if I have any questions about this study?

- *If you have any questions about the interview you may contact one of the researchers:*
- Senior researcher (TBC): Tel: _____, E-mail: _____

- *If you have any questions about the study you may contact the principal investigator:*
- Dr. Catherine Mathews- South African Medical Research Council, PO Box 19070, Tygerberg, 7505. Tel. 021-938 0454, E-mail: cathy.mathews@mrc.ac.za
- *If you have any problems with the way the study was done/concerns about your rights in the study you may contact the research ethics committee which have approved this study:*
- Adri Labuschagne- South African Medical Research Council, PO Box 19070, Tygerberg 7505, Western Cape South Africa, Tel: 021 938 0687, E-mail: adri.labuschagne@mrc.ac.za

INFORMED VOLUNTARY CONSENT FORM

For 18-24 year old to complete

I, _____ (name and surname of 18 – 24 year old) have had all of the above Information explained and I understand the explanation. I have been given answers to my questions about the procedures involved in the study.

- I AGREE to participate in this study and I have received a copy of the information sheet

(Please mark with an X and then complete, sign and date below)

I agree to be involved in the following interviews (please mark with an X):

- *Once off individual interview*
- *Multiple individual interviews over time*
- *Focus group discussion*

- I understand why the interviews and focus group discussions will be voice-recorded and how my confidentiality will be protected (*please mark with an X*).
- I DO NOT AGREE to the interview being voice-recorded.
- I AGREE to the interview being voice-recorded.

Signature of 18-24 year old: _____

Today's date: _____ (day)/ _____ (month) / _____ (year)

If participant is unable to sign:

Name and surname of witness: _____

Signature of witness: _____

Today's date: _____ (day)/ _____ (month) / _____ (year)

Statement by or on Behalf of the Investigators

I _____ (*researcher's name and surname*)

declare that I have explained the information given in this document to the participant.

She was encouraged and given ample time to ask me questions. Our conversation was conducted
in

English/Afrikaans/Xhosa/Sesotho/Zulu/Swati (please encircle) and no translator was used.

Was a copy of the signed copy given to the participant?

- Yes
- No: If no, why not: _____

Signature of researcher: _____

Today's date: _____ (*day*)/ _____ (*month*) / _____ (*year*)

Appendix III: Ethics Clearance, University of Cape Town



UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee



Room 650- Old Main Building
Groota Schuur Hospital
Observatory 7925
Telephone [021] 406 6492
Email: hrec-approval@uct.ac.za

Website: www.health.uct.ac.za/fhs/research/humanethics/forms

24 January 2020

HREC REF: 041/2020

Dr A Swartz
Division of Social & Behavioural Sciences
School of Public Health & Family Medicine
Room 3.49 Falmouth Building -FHS

Dear Dr Swartz

PROJECT TITLE: EXPLORING ADOLESCENT GIRLS AND YOUNG WOMEN'S PERSPECTIVES ON HOW THEIR LIVES WERE IMPACTED BY PARTICIPATING IN A COMBINATION HIV-PREVENTION INTERVENTION IN SOUTH AFRICA (Master's candidate- Ms Wilmé Verwoerd)

Thank you for submitting your study to the Faculty of Health Sciences Human Research Ethics Committee (HREC) for review.

It is a pleasure to inform you that the HREC has **formally approved** the above-mentioned study.

Approval is granted for one year until the 30 January 2021

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.

(Forms can be found on our website: www.health.uct.ac.za/fhs/research/humanethics/forms)

The HREC acknowledge that the student: - Ms Wilmé Verwoerd will also be involved in this study.

Please quote the HREC REF in all your correspondence.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please note that for all studies approved by the HREC, the principal investigator **must** obtain appropriate Institutional approval, where necessary, before the research may occur.

Yours sincerely

Signature removed

PROFESSOR M BLOCKMAN
CHAIRPERSON, FHS HUMAN RESEARCH ETHICS COMMITTEE

Federal Wide Assurance Number: FWA00001637.

HREC 041/2020sa

Institutional Review Board (IRB) number: IRB00001938
NHREC-registration number: REC-210208-007

This serves to confirm that the University of Cape Town Human Research Ethics Committee complies to the Ethics Standards for Clinical Research with a new drug in patients, based on the Medical Research Council (MRC-SA), Food and Drug Administration (FDA-USA), International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use: Good Clinical Practice (ICH GCP), South African Good Clinical Practice Guidelines (DoH 2006), based on the Association of the British Pharmaceutical Industry Guidelines (ABPI), and Declaration of Helsinki (2013) guidelines. The Human Research Ethics Committee granting this approval is in compliance with the ICH Harmonised Tripartite Guidelines E6: Note for Guidance on Good Clinical Practice (CPMP/ICH/135/95) and FDA Code Federal Regulation Part 312, 314 and 312.2.

Appendix IV: Ethics Clearance, South African Medical Research Council



**HUMAN RESEARCH ETHICS
COMMITTEE**

27 February 2019

Prof Cathy Mathews
Health Systems Research Unit
SAMRC Cape Town

Dear Prof Mathews

Protocol ID: EC036-11/2016
Protocol title: Impact evaluation of the Global Fund Young Women and Girls (YW&G)
Intervention in ten South African districts
Meeting date: 25 February 2019

Thank you for your progress report and application to the Committee for renewal, dated 22 January 2019. Ethics approval is hereby granted for the study for another year.

Please note that the approval is valid for 1 year, i.e. from 25 February 2019 to 24 February 2020. Any changes to the research protocol must be submitted as an amendment. Any adverse events must be reported within 48 hours. Any protocol deviations have to be reported.

Wishing you well with your research.

Yours sincerely

signature removed

Prof Danie du Toit
Chairperson: SAMRC Human Research Ethics Committee

Members present at the meeting: Prof D du Toit (Chairperson), Ms S Behardien, Adv J Early, Dr H Etheredge, Prof A Kengne, Ms M Ledwaba, Prof C Lombard, Dr A Loxton, Mr G Makanda, Dr E Nicol

