

# A Review of Index Case Testing Induced Intimate Partner Violence and Electronic Management of Information in HIV Care

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## Abstract

Intimate Partner Violence (IPV) is a form of Gender Base Violence (GBV) where an intimate partner perpetrates violence. In the HIV care continua which has the aim of achieving epidemic control based on the goals defined by UNAIDS, 95% of people living with HIV (PLHIV) have to know their HIV status, 95% initiated ARV treatment and 95% are virally suppressed in order to achieve epidemic control. One of the evidence-based strategies used for achieving an optimal number of PLHIV who know their HIV status is the Index Case Testing Strategy (ICT). While the ICT strategy helps the achievement of epidemic control, its implementation increases the incidence of IPV among either serodiscordant or concordant couples. Tackling information about IPV is very sensitive. A review of the literature on the management of HIV patient information has shown that shifting from paper-based management of HIV patient information to computerized Electronic Medical Records (EMR) systems, using software such as OPEN MRS has significantly improved the management of HIV patient information with high-level confidentiality of patient information. The reviews showed that the EMR systems put in place to manage HIV patient information need to integrate the stages used for the management of IPV among PLHIV.

## Keywords

Intimate Partner Violence, Index Case Testing, Electronic HIV Patient Information

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## 1. Introduction

When it comes to the subject related to gender and violence, there are some terms that are used interchangeably by many researchers. For example, some researchers consider the term domestic violence to be the same as intimate partner violence (IPV) while others clearly bring out the differences between the two terms [1] [2]. Most researchers working on the gender and violence issues often tend to use the terms gender base violence (GBV), IPV, domestic violence and violence against women, referring to them as having the same meaning, whereas these are distinct differences to the different terms [3]. Intimate partner violence on its own is a form of GBV as studies have shown that there is male-perpetrated IPV as well as female-perpetrated IPV [4]. However, male perpetrated IPV outstrips that of women and women suffer heavy consequences due to high rates of victimization [5] [6].

In Nepal, 93% of women living with HIV reported experiencing violence although 45% reported their partner as being the perpetrator of this violence. The prevalence of violence rose up sharply after being diagnosed with HIV positive than before (93.02% vs 53.5%) [7]. According to reports from the world health organization (WHO), the global prevalence of IPV is 35.6% and it occurs among all socioeconomic, religious, and cultural groups in all settings weighing more in Sub Saharan Africa [8]. Studies have shown that there is some level of equity about the perpetration of IPV by either male or female genders [2]. The consequences of IPV vary from minor to severe forms of injuries sometimes leading to death, among which figure infection with HIV. According to WHO reports in 2013, women are 1.5 times more likely to get infected with HIV infection and 1.6 times more likely to contract a sexually transmitted infection such as syphilis in a situation of IPV. Vice versa being diagnosed with HIV seems to increase the rate of intimate partner violence for diverse reasons, especially trust issues. However the incidence of IPV among either sero-discordant or sero-concordant couples tends to reduce with efficient counseling services from healthcare providers [9]. Index case testing is an effective strategy to help country HIV/AIDS programs achieve the first United Nations Program for HIV/AIDS (UNAIDS) goal of 95% of PLWHIV knowing their HIV status. In the ICT approach, the index case is the HIV-positive patient. After the identification of a positive case, health facility staff offer services to test all sexual contacts and needle-sharing partners within the period of the last 12 months and biological children women for HIV-positive women. Once the contacts and biological children of the index case are line-listed, several approaches can be used by the healthcare provider to test the contacts listed. Since the implementation of the ICT strategy, the rate of IPV has increased rate of violence among women from 3% to 11% from 2011 to 2015 [10]. This is the reason why President Emergency Plan for AIDS Relief (PEPFAR) ICT toolkit recommends systematic screening of patients for IPV when implementing the ICT strategy [11].

For a long time, the management of HIV patient information was basically

using data collection tools collecting information from the HIV Care continua *i.e.* HIV testing services and counseling, care and treatment interventions, adherence to antiretroviral treatment, Viral load monitoring, TB/HIV care, Prevention of Mother to Child Transmission (PMTCT) interventions, services for HIV-exposed infants and documentation in patient files. However for the past decade, several studies have shown evidence of the efficiency of electronic medical records systems in the management of HIV patient information with strong security programs while improving patient outcomes [12]. In Kenya for example OPENMRS has been adopted as a national harmonized EMR due to its affordable open-access software and advanced security options such as Hypertext Transfer Protocol Secure (HTTPS) and cryptographic network protocol [13].

This paper therefore intends to briefly present the findings from a collection of reviews on the situation of IPV induced by ICT services in HIV care and the management of HIV patient information including IPV using modern technology.

## 2. Differentiation of Some Terms Used in Violence

Gender-based violence is violence that is directed at an individual based on his or her biological sex, gender identity or perceived adherence to socially defined norms of masculinity and femininity. The definition of violence against women (VAW) is different from that defined by the United Nations Declaration on the Elimination of Violence against Women (DEVAW, 1993) and the Istanbul Convention (2011). In the DEVAW, VAW against women is defined as “any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life” (Article 1) [14] [15]. In the Istanbul Convention, Violence against women is understood as a “violation of human rights and a form of discrimination against women and shall mean all acts of gender - based violence that result in, or are likely to result in, physical, sexual, psychological or economic harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life” (p8, Istanbul Convention 2011). The Istanbul Convention also clearly brings out the difference of the term “Domestic Violence”. It describes domestic violence as “all acts of physical, sexual, psychological or economic violence that occur within the family or domestic unit or between former or current spouses or partners, whether or not the perpetrator shares or has shared the same residence with the victim” which includes intergenerational violence within the family (p8, Istanbul Convention 2011) [15]. What distinguishes IPV from domestic violence is that the violence is perpetrated by an intimate partner whether legally married or not [8] [16].

## 3. Index Case Testing for Epidemic Control

By the end of June 2020, according to UNAIDS reports, there were 38 million

PLWHIV globally and 26 million were on Antiretroviral Treatment (ART) [17]. After the 20<sup>th</sup> International conference for AIDS in Melbourne 2014, targets to achieve epidemic control were set at 90% for known HIV status, 90% for ART treatment and 90% for Viral load suppression. There was an improvement in achieving these goals by the end of June 2020 as many country programs achieved the 90% targets, although not to the satisfaction of the UNAIDS program [18]. Hence, the UNAIDS has set three global goals to control the epidemic by ensuring that 95% of people living with HIV (PLWHIV) know their HIV status as well as initiating 95% of PLWHIV and keeping 95% of them virally suppressed. These goals are to be achieved within the period of 2021 to 2026 [17]. In order to achieve these goals, strategies have been outlined by leveraging successful strategies while developing new strategies based on identifying and addressing barriers that hindered the achievement of 2020 targets by other countries. One of the strategies that enforce the achievement of the first goal is Index Case Testing (ICT) services also known as assisted partner notification services (aPNS). It is an approach in which partners and biological children of an HIV-positive individual (the “index patient”) are solicited and recruited for testing [19]. Index case testing is an effective strategy to help country HIV/AIDS programs achieve the first UNAIDS goal of 95% of PLWHIV knowing their HIV status [19] [20]. Through the ICT strategy, the rate of finding HIV-positive cases can increase from 10% to 30% and be sustained for years as long as the strategy is being implemented to identify cases. In Mahachi *et al.*, (2019) study, high rates of positivity were achieved for both males and females with 31.3% and 33.3% respectively [20].

### **Index Case Testing Algorithm and Approach**

Looking at the definition of ICT, it is clear that this approach significantly helps to determine serodiscordant or seroconcordant status of couples/sexual partners while helping to identify positive cases. A seroconcordant status is when both spouses and partners are HIV positive while serodiscordance means one of the partners is negative and the other is positive. A study in India showed that 60% of HIV patients in couples are concordant with their partners [21]. In the ICT approach, the index case is the HIV-positive patient. After the identification of a positive case, health facility staff offer services to test all sexual contacts and needle-sharing partners within the period of the last 12 months and biological children for HIV-positive women. Once the contacts and biological children of the index case are line-listed, there are several approaches that can be used by the healthcare provider to test the contacts listed. Some studies have shown that the ICT approach increases the rate of IPV mainly because the sexual contact suspects the positive partner for cheating among other reasons. Since there was an increase in violence rates when offering ICT services, screening for IPV has been included in the ICT algorithm in order to mitigate violence resulting from ICT services [9] [22].

Notification options for partners and sexual contacts are different from that of

biological children. This is defined in the index case testing toolkit used by PEPFAR programs to implement this strategy [11].

### 1) Partner Notification Approaches

- **Client Referral:** In this approach, the client or patient tells the partner about their positive HIV result and encourages him or her to go to the health facility for an HIV test.

- **Provider Referral:** In this case the counsellor or other health care provider calls the partner of the index case and/or performs a visit to the partner. The aim of the provider is to inform the partner or sexual contact that they need to test for HIV due to an obvious exposure.

- **Contract Referral:** The counsellor and the patient who is the index case work together to notify your partner. The index case will have 30 days to tell their partner of their HIV status and encourage them to take the HIV test. After which, the counsellor will contact the partner if the index case has not notified their partner by themselves.

- **Dual Referral:** As the name indicates, the counsellor/provider sit with the index case accompanied by the partner to support and facilitate the index case to inform their partners about their HIV status and encourage them to take the test as well.

### 2) Biological Children Testing Approaches

- **Contract Referral:** It is the same as that for partner notification. The counsellor/health provider works together to test the child of the index case. The HIV positive mother who is the index case will have 30 days to bring their child(ren) to the facility for testing. After which, the counsellor/provider will trace the child(ren) and refer them to a facility or test them in the community if the index case does not bring the child within 30 days.

- **Community Based:** In this approach the counselor or other health care provider will visit the mother who is HIV positive and the child(ren) at home, explain the need for HIV testing, and test the child(ren) for HIV.

- **Facility Based:** This approach is the opposite of community based approach where the mother who is the index case brings her child(ren) to the facility for HIV testing. The counsellor/provider will sit with the index case and the child(ren) tell your child(ren) about the need to know their status and test the child(ren) for HIV

A study in Cote D'Ivoire by Mugisha *et al.*, (2023) revealed that client referral and provider referral were the most preferred approaches by index cases to test line-listed contacts [23]. There is evidence that healthcare providers face challenges while implementing the ICT approach. Providers are usually faced with patient refusal to list contacts, lack of confidentiality, fear of divorce, and stigma. However, there is evidence that the acceptance rate for ICT is optimal in most contexts according to a study by Edosa, Merdassa, and Turi, (2022) [24]. In the study of Edosa *et al.*, (2022), the acceptance rate was at 85.2%, and even more satisfactory results in studies conducted in Tanzania and Zimbabwe with an acceptance rate of 96.1% and 95% respectively [20] [25].

## 4. Prevalence of Intimate Partner Violence and Link with HIV

According to a review study by WHO, (2013) in 21 regions on the prevalence of IPV against women, the prevalence of IPV is 35.6% globally [8]. In low-income countries, the prevalence varies from 27.2% to 45.6% in the regions of Europe and Africa respectively. In high-income countries, the prevalence is 32.7%. Central sub-Saharan Africa had the highest prevalence of IPV against women at 65.6%, whereas East Asia was the lowest at 16.3%. Both the male and the female genders can be perpetrators of IPV at equal levels although the burden weighs more on female survivors because of their vulnerability [2] [8] [26]. A study by Malik and Nadda (2019), provided evidence of this in a study on GBV against men in the rural area of Haryana, India where 51.5% of men faced IPV from their partners [27]. The most common type of GBV the men faced from their wives was emotional violence (51.6%) and secondly physical violence (6%). The health consequences of IPV to women can be moderate to severe physical injuries (42%), reproductive health issues (spontaneous abortions, and low birth weight (16%), mental health issues (depression and substance abuse) and ultimately of all death with up to 42% prevalence rate [8]. Physical and mental health consequences are common to both men and women [26].

Women are 1.5 times more likely to get infected with HIV infection and 1,6 times more likely to contract a sexually transmitted infection such as syphilis [8]. This could be because in the context of sexual violence from a partner the woman may be in a vulnerable situation to negotiate the use of a condom [28]. As concerns the male gender, in a study among men living with HIV in rural Appalachia who had experienced IPV, 65% of the men who had experienced IPV within a year prior to the study were victims of sexual violence. According to the researchers, there is therefore need to assess the risk of how IPV in men increases their chances of being HIV infected [29].

### 4.1. Intimate Partner Violence among HIV Patients

Among PLWHIV, there is data that confirms that the burden of IPV is more on women (55%) compared to men at (20%) [30]. It is predicted that intimate partner violence could be one of the factors affecting HIV testing services. As evidence, a study on predictors of HIV testing among women experiencing intimate partner violence showed that less than 50% of women who experience IPV did an HIV test [31]. Meanwhile, another study found that there is a link between HIV and violence with higher rates of HIV cases among women experiencing IPV [32]. This implies that if most women experiencing IPV are not able to know their HIV status, there could be higher rates of morbidity due to HIV among Victims before they are ever put on ARV treatment. In agreement with the study findings of Patrikar *et al.*, another study by Kabwama *et al.*, (2019) found that the prevalence of IPV among HIV-positive women who experienced some form of IPV from their partners in Uganda is high at 48.2% [32]

[9]. The highest form of IPV was physical at 36.6% followed by sexual violence at 29.7%. Intimate Partner Violence negatively affects optimal adherence to ART and respect for antiretroviral treatment appointments (ARV), thereby hindering optimal achievement of viral load suppression targets for epidemic control [9] [10]. As countries are approaching epidemic control, the rate of IPV increases as shown in the study by Young *et al.*, (2018), on how there was an increased rate of violence among women from 3% to 11% between 2011 to 2015 [10]. It could be associated with the use of the ICT strategy, which involves HIV status disclosure to sexual partners or spouses. Some studies have reported that disclosure of HIV status in serodiscordant couples can increase the chances of having violence more than in seroconcordant couples due to fear of HIV transmission and disagreements about condom use, apportioning of blame for the source of the HIV infection, suspicions of infidelity and subsequent alcohol abuse [9] [22]. Kabwama *et al.*, (2019) suggested that in order to mitigate the risk of IPV among serodiscordant couples, counseling services should be offered on the subject of IPV should be offered during the post counseling session of the positive test. Studies have shown that with support from counseling services to the couples, the rates of violence dropped significantly within a period of 2 years of follow-up and were sustained among serodiscordant couples [9].

As with any other form of GBV, IPV is also associated with increased mortality rates, worsened general health, benign to severe physical injury, disability, chronic pain, suicide, substance abuse, reproductive disorders, mental health issues, and poorer pregnancy outcomes and these can eventually lead to an increase in AIDS-related deaths among HIV patients [33].

As shown by studies, several factors can be identified as being the cause of IPV among HIV patients. Male partners with a history of early sexual life, male partners with multi-partners, long marital unions, having many children, having a positive HIV status, early marriage < 18 years, employment and educational status, and the use of contraception [9] [34] [35].

#### **4.2. Management of HIV Patients Facing Intimate Partner Violence**

Just like any other person, HIV patients are prone to experiencing intimate partner violence, especially with the ICT procedure. This is the reason why as shown in the ICT algorithm in **Figure 1**, systematic screening for IPV has been included in the ICT algorithm by PEPFAR since 2018 [9] [11] [22]. When a patient is screened negative for IPV, a line listing of contacts follows according to the steps on the algorithm. In the case where an index case is screened positive for index case testing, the patient is referred to appropriate services where violence can be managed appropriately while ensuring status disclosure and ensuring patient safety. If there are any injuries and signs of sexually transmitted infection identified after clinical examination this would be managed medically. Also, women at risk of unwanted pregnancy if they suffered sexual violence will be prescribed emergency contraception with follow-up examination. Patients



screened positive for IPV are offered psychological first aid (PFA) and first-line support (LIVES). By offering psychological support victims of IPV feel safe, calm, and able to cope through distressful situations. While offering first-line support, the health provider listens attentively and actively to the victim and gets more inquiries about the nature of the violence. The health provider also has to validate and believe the victims by letting them know that they believe in what they are saying and that there are similar cases. The provider also has to develop a safety plan with the victim’s consent with linkage to community services and other necessary empowerment resources such as financial and material resources. A safety plan could include involving the forces of law and justice in extreme cases. Psychological support and LIVES is offered to victims with respect of patients’ right, autonomy and in absolute confidentiality [5]. Below as shown on Figure 2 is an example of a standard operating procedure guiding how health providers can offer LIVES to a woman as a victim of GBV.

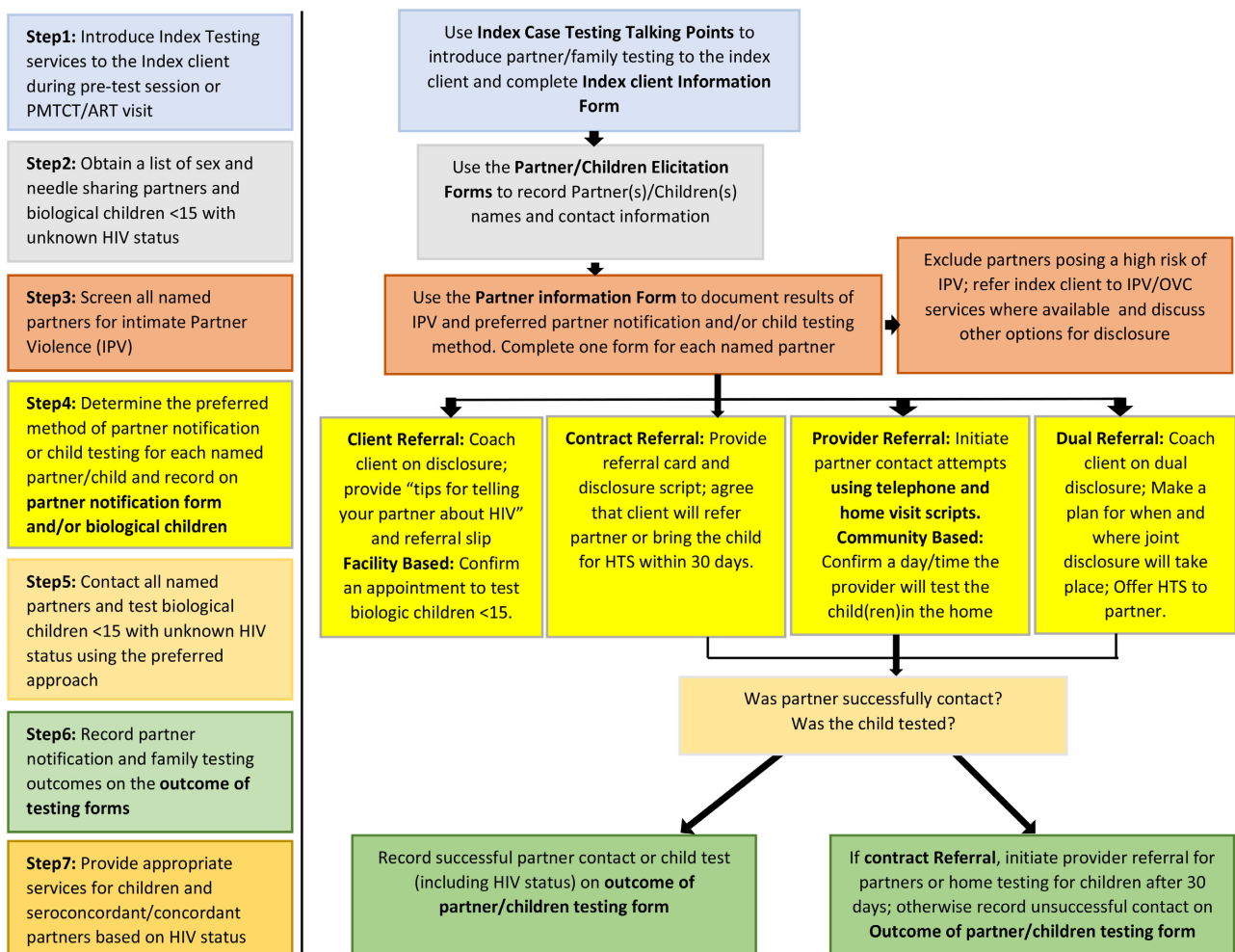


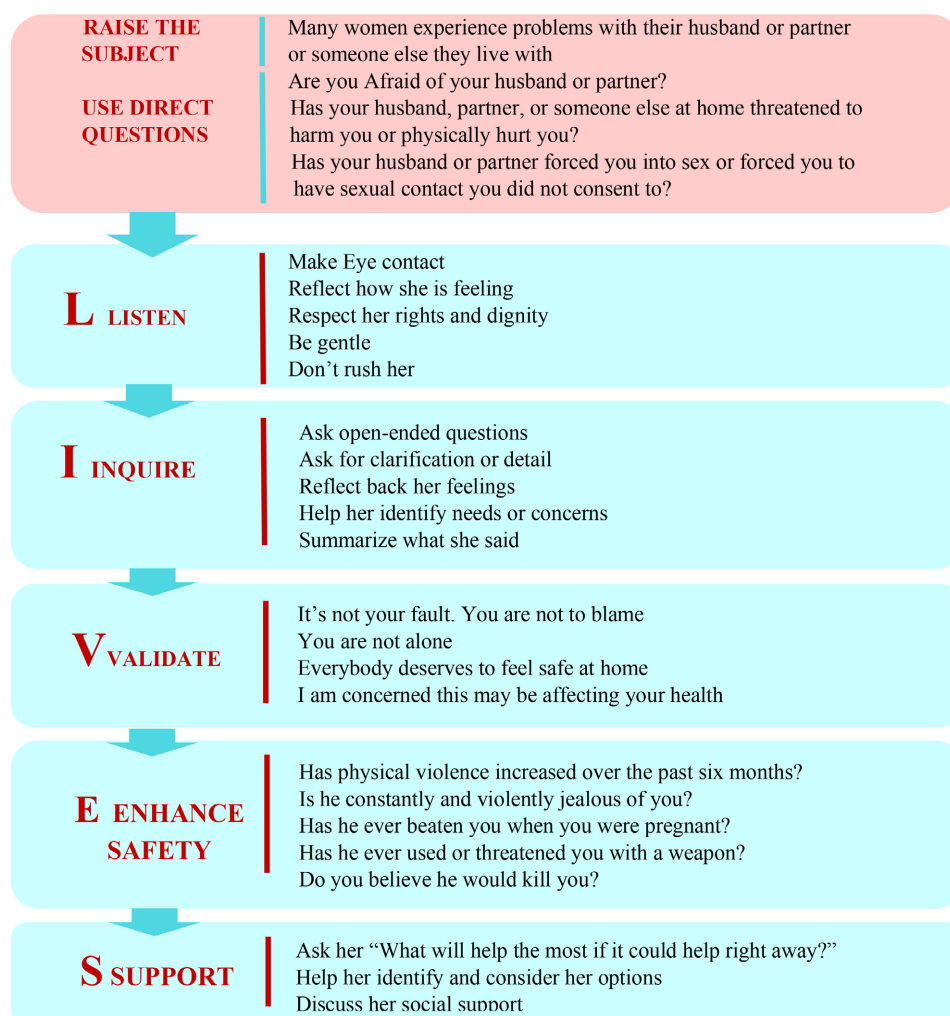
Figure 1. Index case testing algorithm (Steps in Index Case services). Adapted from Index and partner notification toolkit. PEPFAR SOLUTIONS PLATFORME.

<https://static1.squarespace.com/static/5a29b53af9a61e9d04a1cb10/t/5ac3bbaa8a922dc64d9f7bc9/1522777005644/Job+Aids+v2+-+clean.pdf>.



# What is First-Line Support?

## LIVES



**Figure 2.** LIVES standard operating procedure. Adapted from: Spotlight Initiative to eliminate violence against women and girls.

[https://www.spotlightinitiative.org/sites/default/files/publication/GBV\\_SOP\\_Vanuatu\\_181121.pdf](https://www.spotlightinitiative.org/sites/default/files/publication/GBV_SOP_Vanuatu_181121.pdf).

## 5. Electronic Management of HIV Patient Information

Most national recommendations concerning information on HIV services, especially in resource-constrained settings, use paper-based standardized tools such as forms, registers, and patient records where patient information is collected over time. However, there are some health centers in these settings that have the capacity for a computerized patient information system where patient information on paper is entered into a computer to facilitate data analysis as well as generating national reports [36]. Key information about HIV services is centered on HIV testing services and counseling, care and treatment interventions, adherence to antiretroviral treatment, Viral load monitoring, TB/HIV care, Preven-

tion of Mother to Child Transmission (PMTCT) interventions, and services for HIV-exposed infants as shown on **Table 1**. All this information is documented in the patient's medical record or file. As soon as a patient is diagnosed HIV positive, they are immediately enrolled in lifelong treatment on ARVs. A unique identification number is given to a new positive patient which he or she will use for the rest of their life. This unique identification number is also documented in a row of the national longitudinal ARV register as well as in the patient's medical record or file where information is updated during each patient visit. Some countries provide an ID card to HIV-positive patients after enrollment in the care and treatment program [36].

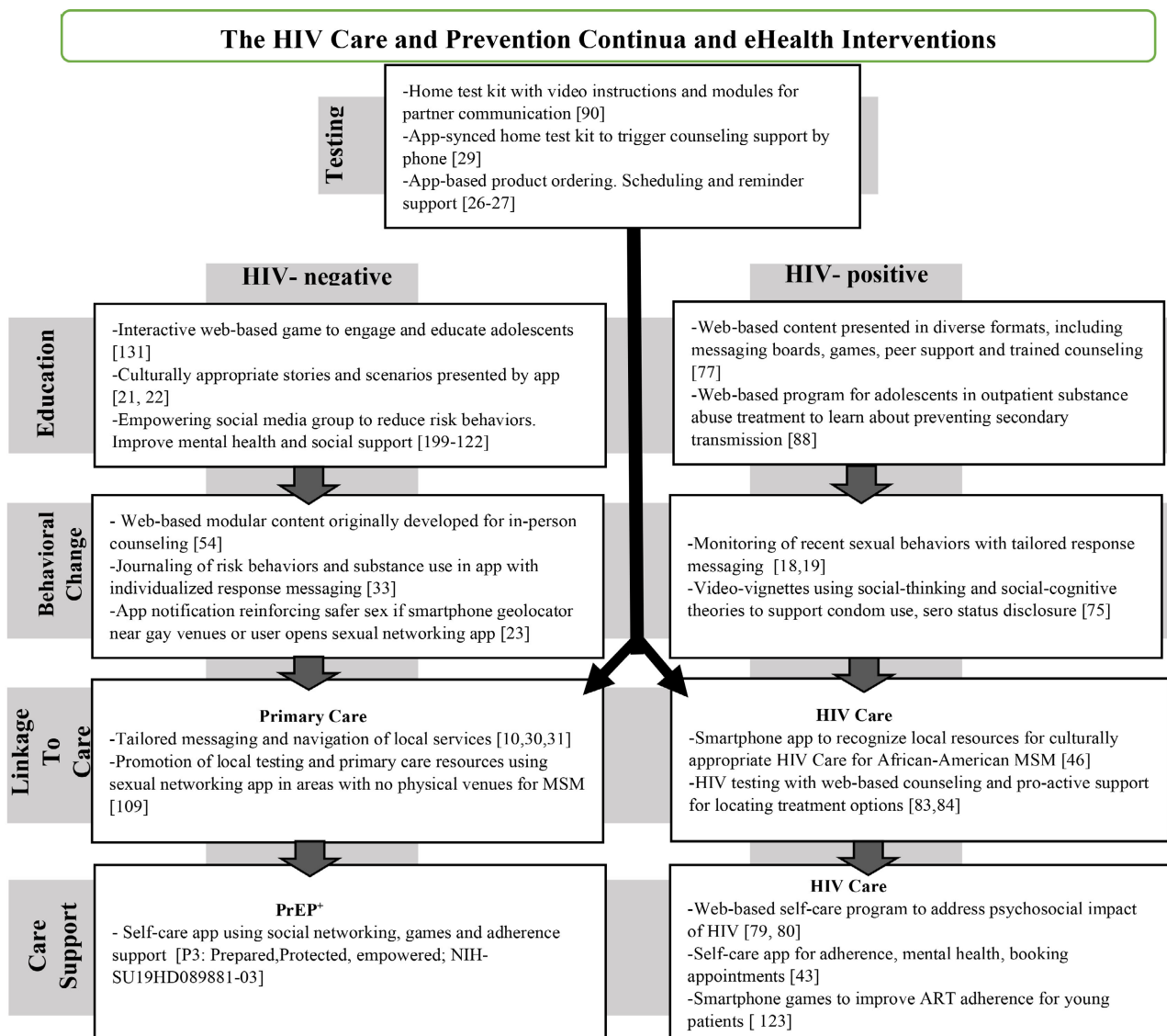
According to Simbini, 2006, the paper based system in managing HIV/AIDS health care information is limited and recommends computerized management systems such as electronic medical records (EMR) for adequate management of patient information [12]. Electronic medical records systems will make it easier to enter patient information as well as extract data for analysis for external use and reporting [12]. Electronic medical records and other eHealth technologies facilitate the effective delivery of HIV care and prevention services. For example, the state of Louisiana in the United States of America uses a bi-directional EMR database used for public health surveillance which integrates HIV/AIDS information called LaPHIE (Louisiana Public Health Exchange). The LaPHIE system helps improve patient retention of care by alerting health providers of patients who missed their appointments in the last 12 months, of which 345/488 (70.6%) alerts were brought back to optimal HIV care [37]. Other electronic technologies that are used in the HIV care continua include web-based educational programs on sexual behaviors, games adapted for the adolescent age groups about the risk of HIV and drug abuse and the process of how to get access to the different types of HIV testing services. Maloney *et al.*, 2020, carried out a systematic review of electronic and other new media technology interventions for HIV care and prevention where 113 articles were retained in the review out of 2178 found in the

**Table 1.** Standardized tools in three interlinked patient monitoring systems for HIV Care/ART, MCH/PMTCT and TB/HIV.

For HIV Prevention Care and Treatment Services;	For MCH PMTCT Services;	TB HIV Services;
<ul style="list-style-type: none"> <li>• Patient-held card if applicable</li> <li>• HIV Care/ART patient card</li> <li>• Pre-ART (HIV care) <b>register</b></li> <li>• ART register</li> <li>• Cross-sectional (e.g. quarterly) reporting form (HIV care, treatment, MCH/PMTCT and TB/HIV)</li> <li>• Appointment book</li> <li>• Transfer/referral form</li> </ul>	<ul style="list-style-type: none"> <li>• Patient-held maternal health card (with HIV fields <b>added</b>)</li> <li>• Patient-held child health card (with HIV fields added)</li> <li>• ANC register (with HIV fields added)</li> <li>• L&amp;D register (with HIV fields added)</li> <li>• Labour record/pantograph, postpartum record (with HIV fields added)</li> <li>• Summary forms</li> <li>• HIV-exposed infant <b>register</b></li> </ul>	<ul style="list-style-type: none"> <li>• Facility-held TB treatment card (with HIV <b>fields</b> added)</li> <li>• TB suspects register (with HIV fields added)</li> <li>• TB laboratory register (with HIV fields added)</li> <li>• TB BMU <b>register</b> (with HIV fields added)</li> <li>• Quarterly report on TB case registration</li> <li>• Quarterly report on TB treatment outcome and TB/HIV activities</li> </ul>

Adapted from: Operations Manual for Delivery of HIV Prevention, Care and Treatment at Primary Health Centers in High-Prevalence, Resource-Constrained Settings. WHO: 2008. <https://www.ncbi.nlm.nih.gov/books/NBK310895/>.

literature [38]. They found varieties of Electronic technologies mixed with mobile health technologies that intervene at specific areas of the HIV care continuum. Majority of the electronic health interventions were for high-income countries where smartphone devices and compulsory high speed internet is available as compared to low and middle-income countries. What seemed to be more common in low and middle income countries were voice calls and sms interventions using mobile phones which are not really considered as robust ehealth interventions [39]. Due to the difference in access to technology interventions, Maloney *et al.*, 2020, recommended that countries should implement electronic health interventions based on their status of technology while planning for improvement in the future. **Figure 3** shows the different types of electronic technologies identified by Maloney *et al.*, 2020, used at the different levels of HIV prevention and care continua [38].



**Figure 3.** Types of electronic health services at the different stages of the HIV care continua. Adapted from: Maloney *et al.*, 2020. <https://doi.org/10.1002/jia2.25439>

In addition, due to readily available access to internet services in high-income countries, web-based self-monitoring of HIV/AIDS patients is helpful to implicate HIV patients to promote and manage their health using telemonitoring services. Through the web, a patient record is created online, allowing the patient to monitor their own health, interact remotely with their doctors or nurses to request advice as well as a source for data analysis and reporting [40].

There are varieties of different EMR systems that have been used with available evidence to improve the management of HIV patients. Some examples are pieces of evidence from the AMPATH—an Academic Model for the Prevention And Treatment of HIV/AIDS and the OPENMRS-Medical Record System all used in Kenya [41] [42]. The successful implementation of an open-source MRS at the level of HIV care was a baseline decision for Kenyan government to decide to build on it to use in all health facilities in a comprehensive manner [42]. Given that OPENMRS is open-source software, the costs related to software licensing are lifted, thus making it financially accessible for low-income settings. Another reason why the Kenyan government decided to adopt OPENMRS as the national EMR software was that an assessment of EMRs in the country in 2011 found 17 different systems used in the country with little or no interoperability capacities and OPENMRS had the highest score of 95.2% of the 7 assessment criteria [42]. In order for EMRs to be inter operational, enabling interaction with other levels of the health system, they should have a cloud-based data storage system [13].

Before the implementation of an EMR in a health facility, challenges relating to the capacitation of health staff, purchase of essential equipment, and administrative issues must be addressed [13]. Although there are some issues about confidentiality and anonymity on the use of electronic medical record systems in health facilities, other studies have shown that patients readily share their information for electronic documentation [43]. However, in order to mitigate the risk of no confidentiality with EMR systems, most EMRs secure them using a virtual private network (VPN). As well as using, other advanced forms of internet protocol security (IPsec) such as Hypertext Transfer Protocol Secure (HTTPS) and cryptographic network protocol [13]. Electronic medical record systems should replicate information collected in the national paper-based HIV monitoring and evaluation tools. Key steps to consider when creating and implementing an EMR is to consider the availability of paper-based patient information, available data entry clerks, available data managers, electronic patient registration forms, appointment schedule pages, patient-doctor visit pages, and a concept dictionary. And the outputs should consist mainly of an electronic summary of patient records, reminder notifications, and reports for the national AIDS program [41].

## 6. Conclusion

The rates of IPV are high among HIV patients to both men and women as evidenced in most studies with both genders identified as perpetrators on an equal scale. The emergence of the ICT strategy for efficient identification of PLWHIV

who know their HIV status also resulted to an increased incidence in IPV cases during the process. As mentioned by most of the researchers in this review, systematically screening for IPV among these patients can help improve optimal management hence controlling it. Consequently as a response the PEPFAR program has developed a toolkit to help mitigate IPV among HIV patients with guidelines for systematic screening and identification of cases. There is sufficient literature about management of HIV patient information paper either based tools or electronic medical records. The use of EMR for HIV patient information management seems to be a better option as evidenced by many researchers. However, both methods of data collection tool in the management of patient information are paper-based tools or electronic tools and do not really include information on the management of IPV among HIV patients.

### **Recommendations**

- Data tools for HIV AIDS should integrate IPV indicators.
- Include management of IPV survivors in existing EMR systems.
- Develop more comprehensive EMRs that include complete care continua, especially for low-income settings.
- Countries with limited resources should consider OPENMRS to implement EMR.
- Screening for IPV among HIV patients should be scaled up to reduce IPV incidence.
- IPV counseling services should be offered post-HIV test counseling to control IPV incidence rates.
- More research on intimate partner violence against men should be carried out.
- More research on the association between ICT and the increase in ICT should be carried out.

### **Limitations**

- The review did not elaborate on the challenges related to implementing an EMR on a new site.
- The review did not elaborate on the prevalence of the other types of GBV across regions but focused mostly on IPV.
- The review did not take a deep dive into articles that bring out the effective implementation of LIVES in the health system.

### **Conflicts of Interest**

The authors declare no conflicts of interest regarding the publication of this paper.

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