REVIEW

COUNSELING OF HIV POSITIVE WOMEN DESIRING TO CONCEIVE

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ABSTRACT

Sexual and reproductive well-being is a major aspect of good health and is an integral part of being a woman. For an HIV positive (HIV+) woman, sexual and reproductive health represents a more complex issue, and these women encounter unique challenges regarding their relationships, sexual satisfaction and also childbearing. Pregnancy rates among women living with HIV (WLHIV) have increased during the past decades with the availability of HIV treatment, making planning for pregnancy an increasingly important part of WLHIV care. Preconception counseling for WLHIV, including assessing fertility and presenting health recommendations regarding conception, may diminish the risk of birth defects, preterm delivery, low birth weight, fetal loss and vertical or horizontal transmission of HIV. These aspects greatly influence reproductive decision-making. The potential gaps in knowledge highlight the need to inform and educate the WLHIV desiring to procreate and help them explore how and with whom they reach this goal.

KEYWORDS: *reproductive health, HIV-positive, WLHIV, preconception counseling*

INTRODUCTION

The evolution of HIV infection has significantly changed with the development of highly successful combination antiretroviral therapy (cART) [1]. In the developed countries, the HIV related deaths have decreased notably, the mortality rates in this group approaching the ones found in the general population [2]. In consequence, the HIV+ people benefit now from a better quality of life with an increased life expectancy [1], [2].

Most of the perinatally infected girls are now young women of reproductive age and sexually active. Plus, 22% of newly acquired HIV infections are in the group of female patients aged 13 to 24 years [3], [4]. In the meantime, measures such as the use of cART, delivery by caesarian section, and breastfeeding avoidance have reduced perinatal HIV transmission to less than 1% [5], [6].

Given the above, and also many of the individuals living with HIV being of reproductive age (e.g., more than 70% of Canadian HIV+ people [5]), pregnancy rates among this population group show an increasing trend. Thus, births to HIV+ women have increased by 30% since the year 2000, 24% of WLHIV report at least one pregnancy since knowing their HIV+ status [7-9], and, unfortunately, in 85% of cases, the pregnancies are unplanned [10].

Unintended pregnancy rates in WLHIV are comparable to those found in the general

population. The reality shows that, even if it represents a significant part of the HIV care, the planning for both contraception and reproduction is widely neglected [3], [4], [10].

Another significant trend in HIV epidemiology that supports the need for reproductive health care and counseling is that the HIV infection rate in female patients grew continuously in the past two decades [11].

Sexual and reproductive rights are human rights that must not be denied to HIV+ people, so they are entitled to fertility and contraceptive information and comprehensive clinical care that is free of discrimination. It is the obligation of healthcare providers (HCPs) to ensure that the rights of HIV+ people are respected in relation to reproduction, that their decisions are informed, and that risk reduction techniques and treatments are made available to them [12].

MATERIALS AND METHOD

We undertook a PubMed, Web of Science systematic electronic search using the keywords "HIV positive", "pregnancy", "counseling" and "transmission risk". The search results included systematic reviews, randomized controlled trials, review articles, meta-analyses and international guidelines and resulted in 310 articles, from which only 23 papers were further included in the final review.

We also undertook a World Wide Web electronic search using the same keywords and gathered information from the United States, Canadian and Romanian official sites which resulted in 9 additional information sources.

RESULTS AND DISCUSSION

Fertility desires among people with HIV

Many HIV+ individuals or with an HIV+ partner are considering having children. The last decade's increasing pregnancy rates in people with HIV confirms this [5].

In 2009, Loutfy et al. finalized a cross-sectional study that assessed fertility desires of WLHIV in Ontario [13]. Also, in 2009, Nattabi et al. published a systematic review of 29 studies that analyzed the factors influencing fertility desires among HIV+ people and reported as being important a wide variety of demographic, health, stigma associated, cultural and psychosocial factors [14]. Both sources reached to the same conclusion, respectively that desires of HIV+ people to procreate were high and that their HIV+ status did not appear to be a predictor of reproductive intentions. In the context of a strong desire and intent to have children among HIV+ people, specialized counseling, services, and support are required [13], [14].

Recommendations regarding pregnancy planning for HIV+

Any patient visit of a non-pregnant person of reproductive age is an opportunity to counsel about healthy habits that may improve obstetrical outcomes if they decide to conceive [15], [16]. Available data show that preconception counseling is associated with a reduction of fetal loss risk and rates of preterm delivery, birth defects, low birth weight and HIV vertical or horizontal transmission [4].

Although the transmission risk (vertically/ horizontally) cannot be eliminated entirely, recently available data have confirmed that it can be dramatically reduced with the use of cART [17].

HCPs are bound both ethically and legally to provide complete, appropriate, and accurate information regarding fertility, preconception planning, and pregnancy management to HIV+ individuals (or who have an HIV+ partner). There is no reason to withhold fertility services to individuals or couples with HIV who are adequately informed, consenting, and willing to use risk-reducing techniques / treatments [11].

HCPs who are not equipped to provide comprehensive counseling or a full range of risk reduction techniques (e.g., laboratory resources) must refer the patient to a provider that has access to the required resources [17].

Despite the fact that many HIV+ individuals desire to procreate, only a small number of fertility clinics offer assisted reproductive services for this population group. These services may include advice about timing of peak fertility, sperm washing, management of potential fertility issues, and treatments, including intrauterine insemination (IUI) and in vitro fertilization (IVF) [5].

Communication is restrained because WLHIV are often afraid to discuss their childbearing desires since they anticipate stigma

from HCPs [18], [19]. Also, putting the burden of starting a safer conception discussion on the patient is a shift of typical roles and power, so it is the provider's responsibility to routinely start discussions about this topic with their HIV+ patients [16], [19].

Available data show that in more than 30% of cases, reproductive-aged women report no discussions about childbearing with their medical provider, even though up to 57% of them intend to conceive [8].

When it comes to pregnancy planning and counseling of couples affected by HIV, the following main clinical aspects need to be addressed: healthy preconception, reduction of perinatal transmission to the infant, reduction of horizontal transmission between partners during conception, and management of eventual fertility issues [5].

The most comprehensive and recently updated guideline available online now regarding the topic of the present paper seems to be the Canadian HIV Pregnancy Planning Guideline. Figure 1 emphasizes the evidence statements and grading of recommendations included in the body of the text.

Quality of evidence assessment	Classification of recommendations
I: Evidence obtained from at least one properly randomized controlled trial	A. There is good evidence to recommend the clinical preventive action
II-1: Evidence from well-designed controlled trials without randomization	B. There is fair evidence to recommend the clinical preventive action
II-2: Evidence from well-designed cohort (prospective or retrospective) or case-control studies, preferably from more than 1 centre or research group	C. The existing evidence is conflicting and does not allow to make a recommendation for or against use of the clinical preventive action; however, other factors may influence decision making
II-3: Evidence obtained from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in the category	D. There is fair evidence to recommend against the clinical preventive action E. There is good evidence to recommend against the clinical preventive action
III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees	L. There is insufficient evidence (in quantity or quality) to make a recommendation; however, other factors may influence decision making

Figure 1 – Key to evidence statements and grading of recommendations [5]

Counseling should be offered to all HIV+ people of reproductive age as part of strategies to reduce the risk of horizontal / vertical HIV transmission (I-A). Reproductive health counseling (contraception / pregnancy planning) should be provided to all HIV+ people of reproductive age as soon as possible after their HIV+ diagnosis and also on an ongoing basis (II-3A). Specially trained HCPs should perform counseling in a non-judgmental, supportive way that takes into consideration factors like "sexual diversity and ethnocultural and / or religious beliefs and practices" (III-A) [5].

In the meantime, individuals should be advised on all aspects of pregnancy planning: healthy diet / lifestyle, smoking cessation / reduction, alcohol consumption, drug use, genetic disease risk, and prenatal screening irrespective of their HIV+ status (III-A). As in a non-pathological situation, daily Folic acid administration should start at least three months prior to becoming pregnant and continued for the first three months of gestation (II-3A) [5].

Since there are various non-cART therapies that HIV+ individuals may be using to treat concomitant conditions, HCPs should revise all the drugs used prior to conception, be they prescribed, over the counter, herbal / alternative medications or street drugs [11].

cART reduces the risk of vertical transmission to 1%, so it is imperative for WLHIV to have access to timely and adequate reproductive health counseling and services [6], [8].

Information on reproductive health recommendations may be presented in various ways, e.g., counseling, pamphlets and videos. Motivational interviewing, a very recommended approach, is a collaborative, person-focused counseling method that has been proven to have some success in behavioral change among HIV+ individuals. This method is meant to strengthen motivation by identifying ambivalence within the patient and facilitate behavior change from their perspective. It's non-judgmental and empathic. When the patient resists change, the practitioner "accepts" it, and when the patient is

ready to change, the HCP is very supportive of the individual's decision [4].

Psychological implications of HIV+ status in relation to reproduction

A patient history that includes inadequate social support or depression has been found to increase depression rates during pregnancy, determine poor medical treatment adherence, and negatively impact outcomes among pregnant women [20], [21].

Given that poor mental health prior to pregnancy can be a strong predictor of perinatal manifestations and the high rates of perinatal depression affecting WLHIV [22], HCPs are urged to ensure that a rigorous mental health assessment is conducted whenever possible in the preconception period. Necessary referrals are mandatory in order to acquire optimal mental health before pregnancy [5].

Counseling should include talking about the potential risk for horizontal and vertical HIV transmission (including through breastfeeding) and how the transmission / risk of transmission could impact the mental health of the parent / -s or family members (III-A). HIV+ individuals who intend to procreate must be made aware of eventual discrimination / stigma they may face from society members less informed about the risks of HIV transmission and that they may require subsequent counseling to cope during the pregnancy / postpartum (II-3A). The preconception period can be a good opportunity to achieve mental health stability. So, assembling a HCPs team that meets the individual's needs in the perinatal period has significant implications for the outcomes of both the mother and the newborn (III-A) [5].

Substance use

In the preconception period, a non-stigmatizing, supportive discussion about substance use is required to promote referral to appropriate services and adhesion to harm reduction strategies for both the mother and the newborn (III-A) [5].

An important consideration in the preconception period must be allocated to substance use, which is very frequent among HIV+ individuals. All discussions about substance use must be conducted in a non-stigmatizing manner and with the perspective of a harm reduction. Available data show that the rates of substance use among HIV+ people, both during pregnancy and in general, although in decline, remain higher than in the general population [23]. Given the higher incidence of substance use among HIV+ people, a detailed discussion about substance use is mandatory during preconception counseling, followed by referral to supportive services if necessary [11].

The available safer conception methods include cART (reduces infectiousness of HIV+ partner), preexposure prophylaxis (PrEP) for seronegative partners, condomless sex limited to peak fertility interval, sperm washing, IUI and IVF with or without intracytoplasmatic sperm injection – ICSI [6], [24]. Though some methods are cost-prohibitive, others are largely available in resource-constrained settings too [19].

cART to reduce infectiousness of HIV+ individuals

cART reduces the viral load, nearly eliminating the risk of horizontal HIV transmission. This viral suppression also eliminates almost entirely the risk of perinatal transmission [11].

cART is safe in pregnancy, with few exceptions. When planning a pregnancy, the cART regimen choice must take into consideration the drug efficacy and tolerability and the toxicity to the fetus or newborn. In other words, cART, when planning a pregnancy, should prevent vertical transmission and ensure optimal treatment for the pregnant woman [25].

Current global guidelines for the care of HIV+ individuals recommend that they be started on cART no matter their CD4 count and that they be counseled to maintain a high therapy adherence to maintain a suppressed viral load [11], [25], [26].

Delaying cART until the second trimester is no longer recommended. The treatment initiation is recommended as early as possible, preferably in the preconception period, to allow full viral suppression and cART related side effects resolution before conception [11], [26]. This recommendation is sustained by the data provided by a French cohort study (2015) that concluded that starting cART before conception leads to the lowest perinatal HIV transmission rate [26].

HIV+ men should also be started on cART prior to conception as soon as possible. Suppose the intended conception method for serodiscordant couples is either condomless sex or sperm washing, conception should be postponed until the HIV+ partner is on cART and has at least two viral load measurements (minimum one month apart) below the detection level [17]. It is preferable the complete viral suppression for a minimum of 3 months prior to the conception attempts, with six months of viral suppression being even better [17].

Preexposure prophylaxis for uninfected partners

CDC (Centers for Disease Control and Prevention) and ASRM (American Society of Reproductive Medicine) have both released statements in support of the use of PrEP during the preconception period [27], even though there is no scientific evidence for this recommendation, and it is unlikely to ever be, given the challenges in conducting such a trial. In this context, and also considering the cost of PrEP, many other countries' guidelines do not recommend the use of PrEP for an HIV negative individual with an HIV+ partner with total viral suppression on cART. However, when adherence to cART or full viral suppression cannot be certified, and it's the couple's intention to pursue conception attempts (e.g., condomless sex/ timed condomless sex) in the near future, the use of PrEP should be recommended for the HIV-negative individual [15].

The 2016 Consolidated Guidelines on the Use of Antiretroviral Drugs for Treating and Preventing HIV Infection currently suggest that PrEP be taken into consideration for all at-risk individuals, respectively HIV-negative partners of persons with HIV with viremia [25].

Whichever the scenario, it is recommended to discuss PrEP with all patients to ensure an informed decision [28].

Condomless sex and timed condomless sex

Condomless sex should be postponed until the HIV+ partner has been on cART for a minimum of 3 months and had at least two viral load measurements at least one month apart below the limit of detection [6].

The relative risk of transmission during condomless sex performed as a mean of conception depends on the plasma viral load of the HIV+ partner, the time she / he's been on cART, the number / frequency of sexual acts necessary, the presence of concomitant sexually transmitted infections and the gender of the infected partner [11].

Timed condomless sex consists of timing acts of condomless sex only to the peak fertility interval of the menstrual cycle, thereby reducing the overall number of condomless sex acts necessary for conception and implicitly the risk of horizontal HIV transmission [5].

Some studies of HIV serodiscordant couples requesting preconception counseling showed that knowledge about the peak fertility window was low; therefore, it is essential to allocate time to counseling about methods for effectively timing condomless sex if this method of conception is used [29].

Sperm Washing

Sperm washing is an effective and safe risk reduction option for serodiscordant couples in which the male partner is HIV+ or when super-infection is a concern. The technique consists of centrifuging the semen to separate spermatozoa (which are HIV free) from seminal plasma and non-germinal cells (which could carry HIV) and then inseminating it into the female partner at ovulation [30].

According to available data, the risk of the sample carrying detectable HIV is 1.5 - 7.7%, and this may happen due to the failure of the centrifugation to remove all of the seminal plasma and leukocytes. The number of washes allowed is small since repeated centrifuging determines sperm quality alteration and quantity reduction. According to a recent meta-analysis on the topic which synthesized the results of 40 trials including serodiscordant couples who underwent either IUI or IVF (with or without ICSI) with washed sperm, there were no reports of HIV transmission occurring in 11.585 assisted reproductive cycles [5]. The study also included a subpopulation of couples in which the HIV+ male partner was not virologically suppressed, and no cases of HIV transmission (2.863 assisted reproductive cycles) were reported [5].

IUI, IVF, ICSI

IUI, IVF, ICSI are fertility techniques useful in reducing the risk of HIV transmission. IUI involves placing washed sperm directly into

the uterus during the ovulation period. For couples who desire to further reduce the risk of transmission or those challenged with fertility issues, sperm washing can be combined with ovulation induction, IVF or ICSI. Few studies concluded that because ICSI consists of inseminating only one spermatozoon, HIV transmission in serodiscordant couples with HIV+ male partners is lower than with IUI or conventional IVF [5].

The need for additional guidelines and programs

Reproductive health care for WLHIV is suboptimal worldwide, and strategies to enhance family planning for this population group are needed [4].

The primary care guidelines for HIV-infected persons in the US redacted by the Infectious Diseases Society of America recommend reproductive health counseling in order to prevent unintended pregnancies and reduce the HIV transmission risk [8],[31].

Romanian guidelines currently exist only for managing HIV infection during pregnancy, and therefore, the issues presented above are not addressed. Also, issues related to the postpartum period or infant feeding, including breastfeeding, are not covered [32].

Providing HCPs with thorough safer conception guidelines and training would facilitate access to comprehensive safer conception counseling and offer reproductive choices for HIV+ people [19]. Safer conception programs are still in their infancy in many high HIV prevalence countries. However, they are gaining momentum, and both WLHIV and HCPs would greatly benefit from them [19].

CONCLUSION

There is an acute need for counseling targeted towards adolescents and young WLHIV in order to enhance reproductive health care either for contraception or procreation. Strategies to stimulate this kind of discussion during patient consultations should be implemented since they could play a crucial role in improving positive health outcomes for couples and neonates.

Even if the risk of transmission cannot be completely eliminated and given the fact that it is not unethical/ illegal for informed parents to attempt conceiving a child, it is the ethical obligation of HCPs to ensure comprehensive and non-judgmental counseling and facilitate the access to preferred risk reduction techniques for prospective parents. HCPs who are not equipped to provide comprehensive counseling or the full range of risk reduction techniques should refer the patient to more resourceful providers.

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