

‘Treatment as prevention’

Exploring the views of Quebec HIV specialists on its implications for individuals and society

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Therapeutic guidelines in the province of Quebec as in several developed countries now allow for antiretroviral treatment to be prescribed as a means of restricting HIV transmission, given its efficacy in reducing infectiousness. The prospect of widespread adoption of antiretroviral ‘Treatment as Prevention’ (TasP) raises important questions about its benefits and risks for individuals and for society. To explore these issues, ten Quebecois specialists in the clinical and biomedical aspects of HIV were recruited to participate in a focus group on the implications of TasP for four groups: HIV-positive individuals; their HIV-negative partners; health professionals; and ‘society’. Altruism as an adjunct concept was also examined. Qualitative analysis of the focus group transcript sought the identification of major areas of consensus and disagreement. The findings were subsequently validated by participants, and showed that specialists disagreed about beginning treatment earlier than traditionally prescribed and were ambivalent towards TasP. This study’s findings underscore the tension between the numerous perceived risks and benefits of implementing TasP. Altruism was seen as an appealing yet imperfect concept on which to draw for implementing, understanding and ensuring the success of TasP.

[HIV, antiretroviral treatment, prevention, altruism, Quebec]

In the early years of the human immunodeficiency virus (HIV) epidemic, the biomedical field faced a lack of efficient treatment strategies when the effects of monotherapies, based on a single molecule, failed to meet expectations. As of 1996, however, the situation significantly changed when a series of treatment opportunities became available with the discovery of protease inhibitors and of powerful antiretroviral combinations (Lebouché et al. 2007). These pharmacological innovations translated into a dramatic inhibition of HIV replication and a reduction in morbidity and mortality associated with HIV. Clinical evidence has also suggested that antiretroviral therapy (ART) has added benefits, such as reducing HIV-related inflammation and its ensu-

ing complications as well as diminishing the risk of HIV transmission (DHHS 2011). The latter would occur by reducing the concentration of HIV in blood and genital secretions, making HIV-positive individuals less infectious to their sexual partners or when sharing needles (Attia et al. 2009; Smith et al. 2011). This potential of ART has received increased attention and provided the impetus for considering ART as an integral part of HIV prevention approaches. In January 2008, the publication of a document, which has become known as the “Swiss Statement” (Vernazza et al. 2008), provoked a medical and bioethical debate internationally (Wilson et al. 2008). Authored by four of Switzerland’s foremost HIV experts on behalf of the Swiss Federal Commission on HIV/AIDS, this publication was the first to state, based on a review of key publications, that an HIV-positive person will not sexually transmit HIV under certain conditions. The conditions that must be met are first, the absence of sexually transmitted infections, second, following an ART regimen perfectly with regular supervision by a clinician, and finally, having an undetectable viral load for at least six months (Vernazza et al. 2008). Other specialists in the biomedical field of HIV/AIDS have come to more cautious conclusions (e.g., Sida Information Suisse 2008; Wilson et al. 2010), some due to the absence of prospective studies at the time. Nevertheless, this statement was important in helping to coin the concept of ‘Treatment as Prevention’ (TasP), which led to urgent calls to discuss TasP’s benefits and risks (Cohen 2010) and its implementation (Montaner 2011). Enthusiasm for TasP has recently culminated in U.S. Secretary Clinton’s call to action in early November 2011 to reduce the global rate of HIV infection which positioned TasP as one of three pivotal interventions for this effort (U.S. Department of State 2011). Hence, a new phase has begun in the appropriation of pharmaceutical HIV treatments where they may be used for prophylactic as well as therapeutic purposes.

Treatment as prevention

To review, in TasP, the purpose of ART shifts from its original goal of improving the longevity and health of HIV-infected persons to include the objective of HIV prevention (Wilson et al. 2010). Its preventative potential is supported, for example, by a recent Canadian study reporting a strong population-level association between increased ART coverage (individuals on ART) and a decrease in both community viral load¹ and new HIV diagnoses (Montaner et al. 2010). Perhaps the best support for TasP are the results of a randomized controlled trial conducted by the HIV Prevention Trials Network (HPTN 052) which enrolled 1763 heterosexual, serodiscordant couples² from six countries (Cohen et al. 2011). It further suggests that early initiation of treatment may be important to maximize ART’s proposed dual role of generating both personal and public health benefits. This trial found that the risk of sexual transmission was reduced by 96% when ART was begun immediately rather than later, when CD4 cell counts decreased to below 250 per cubic millimeter or an illness related to the acquired immunodeficiency syndrome (AIDS) appeared. Furthermore, progression in HIV-related disease was reduced by close to 40% in the early treatment group.

Nevertheless, using ART for TasP with the intent of producing positive outcomes on both individual and population levels requires more reflection on which antiretroviral agents should be administered to whom and when (Smith et al. 2011).

In Quebec (Canada), where the present study was conducted, the therapeutic guidelines for when to begin ART among asymptomatic HIV-infected adults rely principally on CD4 cell count (Baril et al. 2010; Rouleau et al. 2011). The CD4 count serves as the major indicator of immune function in patients who have HIV and it is one of the most important factors in the medical decision to initiate ART (Mellors et al. 1997). Quebec guidelines recommend treatment when CD4 cells fall below 350 per cubic millimeter, although ART can be prescribed between 350 and 500 to lessen the risk of HIV transmission. The use of ART for prevention when CD4 cell counts are above 500 is, however, under discussion.

The concept of altruism

Questions raised by TasP also involve the foundations on which its implementation can be justified or promoted whether as part of a public health campaign or in doctor-patient exchanges. The concept of altruism is worth exploring in this context. Altruism has been the focus of theorizations in the fields of sociology and anthropology (Jeffries et al. 2006; Weinstein 2009). From Comte to Sorokin, authors have highlighted the importance of altruism in structuring social relations and elaborated on its different forms and roles in people's pursuit of wellbeing.

In the field of HIV research, recognizing the limitations of prevention strategies that primarily appeal to individuals' self-interest, some investigators have argued for integrating the concept of 'other-sensitive' motivations into the theoretical bases for HIV prevention, including altruistic concern for one's partners (Nimmons 1998; Nimmons & Folkman 1999). A number of studies support this view, pointing to altruism's relevance for populations affected by HIV and their sexual decision-making. For example, a qualitative study with gay men found altruistic as well as self-protective and egalitarian rationalities were present in their narratives of HIV risks (Davis et al. 2002). O'Dell and colleagues (2008) introduced the concept of 'HIV prevention altruism' which is defined as "values, motivations, and practices of caretaking towards one's sexual partners to prevent the transmission of HIV" and measured by the investigators with a 7-item Likert-type scale (O'Dell et al. 2008: 713). In their study, high HIV prevention altruism in HIV-positive men who have sex with men (e.g., "Having safer sex shows that I care about my partner") was associated with lower levels each of anal intercourse, unprotected anal sex with a serodiscordant partner and disclosure of HIV status, the three dependent variables considered. Among active drug users, 'altruism' (i.e. any action that can benefit another individual's welfare) was important in maintaining long-term participation in HIV prevention programs (Convey et al. 2010). As a final example, in a therapeutic vaccine trial, 'social altruism' was identified as a prime motivation for HIV-positive individuals to participate, as their results indicated that most believed the societal benefits outweighed any personal

risks involved (Balfour et al. 2010). For treatment as prevention, this work suggests that altruism offers an interesting, although little discussed, tool for its delivery and evaluation. The ethical issues and utility of drawing on altruism in TasP, however, need exploring, particularly in regard to different contexts of intervention. For these reasons, researchers and clinicians in the field of HIV and its prevention (in Quebec) were invited to participate in a focus group. Participants were all interested in discussing what values might justify early treatment for people living with HIV to prevent secondary transmission, given that medical guidelines for ART in Quebec are silent on this issue.

Methodology

Ten Quebec specialists in the clinical and biomedical aspects of HIV were invited to participate in the focus group as a part of an exploratory study. In addition to altruism, participants were united to discuss the advantages and limits of early treatment as a part of TasP. A focus group was appropriate for the chosen qualitative approach which borrowed from hermeneutic-dialecticism (Guba & Lincoln 1989; 2001). This approach underscores the right of all partners or stakeholders to be heard and to express their preoccupations and needs, providing a forum for negotiation and collaboration (Sylvain 2008). The research process was interpretive, co-constructed between investigator and participants, and oriented towards achieving a consensus or, in its absence, defining an agenda for future discussion.

Because of their involvement at different levels of HIV-related care, treatment, prevention and research, the specialists recruited were considered stakeholders in the TasP debate. The areas of HIV expertise represented covered a wide disciplinary spectrum, haematology, microbiology, virology, epidemiology, ethics, clinical care of HIV-positive persons and medical anthropology, to ensure the expression of diverse points of view and concerns. All but two participants were practicing physicians who treated HIV-positive patients at a local institution. Three were in charge of an AIDS clinic in Montreal. Each participant had several years of practice and/or research experience with HIV and was known for their contributions in the areas of care or prevention in the field. Notably, four participants had contributed to the development of the 2010 Quebec guidelines for the treatment of adults living with HIV/AIDS.

The focus group was held in Montreal in a non-medical setting in April 2011 and lasted approximately 130 minutes. A power-point presentation given by the moderator based on the summary of a literature review outlined issues and notions of interest to establish a conceptual framework for the discussion. The group was then asked the following questions: What, in your opinion, are the risks and benefits of TasP from the perspective of: 1) HIV-positive persons?; 2) their HIV-negative partners?; 3) health professionals?; and 4) society as a whole? How useful is the concept of altruism for TasP in each of these groups? Participants were invited to express their points of view succinctly to allow even participation and ensure sufficient time to cover every topic on the agenda. The moderator ensured that discussion remained on-topic and actively

contributed to the exchanges. The discussion was audio-recorded and transcribed verbatim. The content of the transcript was coded for each of the topics raised and the main points of agreement and dissention were summarized. This summary was then submitted for approval by all participants in order to validate the analyses and ensure that they accurately reflected the focus group discussion. Participants were free to add their thoughts and complete the analyses as they saw fit.

Findings

No consensus was reached among the HIV specialists participating in this study on whether or not ART should be prescribed to HIV-positive persons when their CD4 cell count was above 500. All specialists took an ambivalent stance towards TasP, recognizing both risks and benefits to its implementation. They agreed, however, that a TasP approach needed to have a strong basis in the HIV-positive person's self-interest, involve the use of an ART 'without' side effects, and integrate condom use under certain circumstances. As a basis for TasP, altruism at individual and interpersonal levels proved to be a useful concept in some circumstances but on a societal level, the notion of 'common good' was deemed more appropriate.

Specific points of consensus arising from the focus group among the ten specialists in regards to the benefits, risks and place of altruism within a TasP approach for each of the four groups are described below.

HIV-positive people

Specialists agreed that TasP was beneficial in some respects for HIV-positive people. Treatment can help to normalize the lives of HIV-positive people by improving health and eliminating some of HIV's physical symptoms, thus fostering a positive self-perception as a healthy individual among users. In addition, by drastically reducing viral load to an undetectable level, ART offers a degree of protection from infection to HIV-positive people's sexual partners. Nevertheless, risks were pinpointed as well. Accepting ART earlier could more rapidly lead to treatment fatigue and make adhering to the ART regimen more difficult. For HIV-positive people who do not disclose their infection status, following treatment and its visibility may reveal their HIV status to their partner(s). Furthermore, if condom use is abandoned by HIV-positive people, they may be more exposed to sexually transmitted infections (STI) other than HIV. As for altruism, the participants considered it an interesting concept as a basis for convincing HIV-positive people to take ART earlier than clinically necessary in order to reduce the risk of HIV transmission and to ease acceptance of ART side effects. Furthermore, altruism may have a beneficial effect for HIV-positive people, namely, the reciprocity of this altruism whereby they assume medication risks to protect their partners, who, in turn, will assume the risks of sexual activity with them.

Uninfected partners

For the uninfected partners of HIV-positive individuals, TasP offers the benefits of helping to normalize their sex life and of reducing its stressfulness as ART significantly diminishes their partner's infectiousness. It also has the advantage of possibly involving pre- and/or post-exposure prophylaxis. A number of risks for uninfected partners were also identified by participants: the uninfected partner must accept a residual risk of HIV transmission and must trust the efficiency of ART as well as their partner's adherence to it, especially if they plan to abandon condom use. In regards to altruism, it was considered less important than self-protection for uninfected partners even though it may facilitate reciprocal altruism between partners, as we previously described.

Health professionals

For physicians, TasP was seen as beneficial for its potential to facilitate the integration of prevention in the clinical care of HIV-positive people and to improve patient-doctor communication in this regard. The clinical care setting provides the best access possible to HIV-infected persons and offers repeated opportunities for HIV prevention interactions between clinician and patient (Fisher et al. 2010). TasP may provide a desirable and effective avenue for integrating HIV care and HIV prevention. Risks raised by the specialists included that physicians may consider TasP a panacea, with the possible effect of limiting their evaluation of clinical or psychological factors that would otherwise lead to a postponement of ART. TasP also requires health professionals to be highly aware of signs of treatment fatigue in patients due to long-term medication use. Thorough follow-up to maintain adherence to ART is also needed otherwise resistance could emerge and resistant HIV transmitted. In addition, specialists felt that TasP could reduce health professionals' attention to traditional preventive activities such as condom use and minimizing exposure to STI.

The focus group participants agreed that altruism could be used to justify TasP with some patients; however, they were concerned that the promotion of altruism might be perceived by patients as a moral pressure, with impacts on the quality of their care. For example, patients may censor themselves and not disclose 'immoral' behaviours to their physician or avoid or even replace their health care professional. Similarly, TasP grounded in principles of altruism may place moral pressure on health professionals themselves that could conflict with their patient-centered concerns. Hence, from the point of view of health professionals, the potential of ART to normalize the sexual lives of HIV-positive persons and their partners was judged a possibly more important rationale than altruism for early treatment.

Society

At the societal level, focus group participants saw the benefits of TasP for normalizing the social and sexual lives of people living with HIV as helping to fight HIV-related

discrimination and stigmatization. Here, increased recognition that ART decreases individual and community viral load was seen as possibly reducing negative perceptions of HIV-positive people as infectious and a threat to others. From a legal standpoint, TasP could limit the criminalization of unprotected intercourse by HIV-positive people to those who have detectable viral loads. In addition, the implementation of TasP could provide an opportunity to educate the public about new developments in the field of HIV/AIDS and its prevention, through innovative campaigns.

Disadvantages raised included the risk of trivializing sexual risk-taking, especially as TasP emphasizes the protective effects of ART despite a residual risk of viral transmission. Adherence to ART in HIV-positive people may also be insufficient to reduce the rate of HIV-transmission in the population. Furthermore, reaching and efficiently treating highly infectious individuals, especially those who are in the earliest stage of infection, may prove difficult. Lastly, implementing TasP without evaluation and proof of its cost-effectiveness could place a heavy burden on the budget devoted to fighting HIV/AIDS.

On the topic of altruism, the specialists were of the opinion that the notion of 'common good' was more appropriate to promote TasP on a societal level than was altruism. The common good was discussed in terms of doing something together, on a societal level, to help each other in the name of solidarity (Jobin 2006). From this perspective, all would potentially benefit from the development of strategies to reduce community viral load, promote widespread HIV-testing in the general population and in groups at risk of infection, and ensure the availability and maintenance of other prevention strategies in a context of scarce resources. The stigmatization of people living with HIV as well as their legal persecution were, however, seen as obstacles to the implementation and success of these strategies. Hence, the common good would also be served by addressing these issues.

Discussion

This exploratory study examined the expansion of ART to include a role in HIV prevention, in particular, one involving early treatment. It has done so from the views of ten Quebec specialists in the clinical and biomedical aspects of HIV infection on the implications of 'Treatment as Prevention' for several groups. These specialists were divided on whether to prescribe ART when CD4 cell counts were above 500 cells per mm³. Disagreement on early treatment was not unexpected since it is reported from other parts of the world. The U.S. Department of Health and Human Services (DHHS), for example, did not address or recommend treatment for adults with CD4 counts over 500 precisely because of a lack of consensus between its panel members. Half of the panel preferred to start ART while half considered it optional (DHHS 2011). The advantages of early ART are therefore not clear to many experts in the field of HIV/AIDS treatment and prevention. Further investigation is needed to better understand the biomedical, clinical and ethical resistances to TasP and early antiretroviral treatment.

Our participants were generally ambivalent towards TasP. They identified, and were in unanimous agreement about, numerous benefits as well as risks for each of the target groups they considered. Some of these risks reflect the concern that a TasP approach will contribute to the relaxation of protective practices against HIV and sexually transmitted infections. How ART's impact on viral load and infectiousness is reflected in the sexual practices and sexual-decision making of HIV-positive persons and serodiscordant couples is not very well documented (Lebouché & Lévy 2009). Some studies indicate that national or cultural values and social representations could modulate acceptance of TasP. A study in Australia found widespread scepticism towards the Swiss statement in HIV-serodiscordant heterosexual couples (Persson 2010) while another study with a cohort of HIV-positive people in Switzerland showed that stable couples were more likely to report more unprotected sex following the release of the Swiss statement (Hasse et al. 2010).

Finally, focus group participants agreed on the value of other-sensitive motivations (Nimmons & Folkman 1999) for TasP, whether these were discussed in terms of altruism or the common good. This applied to each stakeholder group they considered. Their use did, however, raise some potential problems, notably, their ability to put people living with HIV as well as their health care professionals under moral pressure to medicate with ART when clinically unnecessary. As specified, this could compromise the care of HIV-positive people, a situation that would need to be addressed when drawing on these concepts for TasP strategies. Altruism and the common good may nevertheless be of use in the promotion of TasP in order to emphasize its interest and advantages at different societal levels.

Conclusion

This study's findings offer an exploration of the benefits and risks of TasP from the perspective of ten HIV experts in the clinical and biomedical aspects of HIV and provide a canvas for more elaborate investigation. The viewpoints of many other stakeholders also need to be examined *directly*. This includes people living with HIV, community HIV prevention workers, (likely) partners of HIV-positive people, members of the general public, representatives of the ministry of health and of the pharmaceutical industry, as well as legal officials. Given the many possible impacts of TasP on these groups and society as well, they must be involved in its evaluation in order to better grasp the pros and cons of implementing it (Lebouché 2009). As our findings suggest, future research will need to further examine the benefits and risks of TasP and the concepts of altruism and the common good if this preventive strategy is to be implemented and to succeed.

Other investigations relevant to TasP should analyze its utility and its adaptation to various sub-groups of the population including men who have sex with men and their serodiscordant partners; heterosexuals and their serodiscordant partners; and members of specific communities such as Aboriginal and First Nations people, ethno-cultural minorities and injecting drug users. In this regard, it is necessary to take account of the

social determinants involved in vulnerability to infection in the first place and barriers to such important aspects as treatment access, coverage and long-term adherence to ART (Nguyen et al. 2011). Efforts in these directions can contribute to ensuring that TasP will become part of a combination of approaches to prevent HIV infection and offer a win-win situation for individuals and society.

Notes

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- 1 Community viral load can be understood as a population-level biological indicator of HIV transmission risk (Das et al. 2010).
- 2 Serodiscordant couples are couples in which one partner is HIV-positive and the other is not.

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