

Dual Pharmaceutical Citizenship: Exploring Biomedicalization in the Daily Lives of Mixed HIV-serostatus Couples in Canada

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Abstract

Positive Plus One is the first large-scale mixed methods study of mixed HIV serostatus couples in Canada. We aimed to understand how biomedicalization i.e., a social process of commodification and expansion of the jurisdiction of medicine over health, influenced the everyday relationships of these couples. We completed 51 semi-structured interviews among a purposive sample of HIV-positive (n=27) and HIV-negative (n=24) partners in current or past mixed-serostatus relationships. Participants were recruited after completing an online survey where they consented to be re-contacted for qualitative interviews. Participants represented a diversity of sexual orientations, gender identities, and other sociodemographic characteristics. Drawing on inductive thematic analysis to identify patterns within couples, across serostatus and sexual orientations, we argue that everyday lives of mixed-serostatus couples were shaped by biomedical knowledge and enacted through routine adherence to obtain and maintain viral load undetectability. Our findings illustrated the importance of learning biomedical knowledge for mixed-serostatus couples in this study, the empowering influence of undetectable = untransmittable (U=U) discourse, and its role in rendering HIV mundane through routine ART adherence. We introduce the concept of ‘dual pharmaceutical citizenship’ to underscore a process by which particular biopolitical and biomedical expectations are fulfilled in mixed-serostatus relationships. These findings have implications for people who do not readily accept or have access to biomedical knowledge, particularly when treatment-as-prevention frames a “right” and “wrong” approach to HIV management. Future studies should focus on couples where at least one partner does not readily accept or have access to biomedical knowledge.

Keywords: Serodiscordance, mixed HIV-serostatus couples, qualitative research, biomedicalization, Canada, dyadic analysis

Introduction

Treatment as Prevention (TasP) has gained traction in the past ten years, following the promising results of trials such as HPTN052 (Cohen et al., 2011) and PARTNER (Rodger et al., 2014). These trials provided evidence of low transmission risk between partners in mixed-HIV-serostatus relationships when the HIV-positive partner has an undetectable HIV viral load. This discursive shift in HIV treatment and prevention has drawn attention to mixed-status relationships, including the impact of TasP on suppression of viral load and reducing transmission risk. Comparatively fewer studies have explored its impact on intra-couple dynamics, relationship quality, and implications for how mixed-status relationships “work.” The resulting public health messaging, including the promotion of Undetectable = Untransmittable (U=U), has highlighted the potential for reducing HIV stigma, allaying transmission fears (Young et al., 2016), and enabling mixed-status couples to gain and maintain a sense of normality (Newman et al., 2015; Philpot et al., 2020; Persson, 2016).

In recent years, researchers have explored the lived experience of mixed-status couples across several social, geographic and biopolitical contexts ([Anonymous 2015]; Persson & Hughes, 2016; Torres-Cruz & Suárez-Díaz, 2020). Understanding what it means to live in a mixed-status relationship since the proliferation of biomedical U=U messaging and TasP recommendations remains an important line of inquiry. To this end, researchers have foregrounded how biomedicalization shapes the lives of both partners in mixed-status relationships (Newman et al., 2015; Persson & Hughes, 2016; Philpot et al., 2020).

Biomedicalization refers to “the increasingly complex, multi-sited, multidirectional processes of medicalization, both extended and reconstituted through the new social forms of highly technoscientific biomedicine” (Clarke et al., 2003, p. 162), whereby the expanding jurisdiction of medicine over health (not just illness, disease or injury) and its commodification take centre stage. With roots in Foucauldian biopolitics and self-regulation (Banda, 2015;

Giambi & Perrey, 2013), Clarke and colleagues argue that biomedicalization has shifted societal expectations surrounding health and chronic disease management such that they are increasingly framed as “individual moral responsibilities” involving regular self-surveillance, risk assessment, and use of biomedical technologies (Clarke et al., 2003, p. 162). Many scholars have taken up this theory in the context of individuals living with HIV (Adam, 2011; Aggleton & Parker, 2015; Banda, 2015; Giambi & Perrey, 2013; Persson et al., 2016a). Adam (2011) emphasized grounded lived experience as an epistemological starting point and underscored biomedical technologies are inherently social. Interventions such as antiretroviral therapy (ART) do not exist outside the social; they require “people to understand, act, comply and adhere, all of which are profoundly social practices and behaviours” (Aggleton & Parker, 2015, p. 1553). TasP is a biomedical intervention that exists squarely within the social given its impact on, and interaction with sexual behaviour. Persson (2016) applied Ecks’ (2006) concept of “pharmaceutical citizenship” to consider the socially transformative impact of biomedicalization on the daily lives of people living with HIV. Pharmaceutical citizenship centres on the ways in which biomedicalization can serve to “‘demarginalize the suffering individual’ and make them acceptable to society but only as long as they fulfil their obligations as citizens by complying with biomedical solutions in the first place” (Persson, 2016 p. 382). Here, we take up this critical lens to consider the biopolitical implications of linking adherence to TasP to societal acceptance and implications for mixed-status relationship dynamics. We introduce the concept of ‘dual pharmaceutical citizenship’ to underscore a process by which particular biopolitical and biomedical expectations are fulfilled in mixed-serostatus relationships.

One recurring theme in existing studies on biomedicalization’s impact on mixed-status couples is the way in which many mixed-status couples “assert the ‘normality’ of their lives, describing how their lives are ‘just like’ those not living with HIV, and how HIV has minimal

impact on day to day living” (Philpot et al., 2020, p.3). Seminal studies on the discourse of normality in mixed-status couples have explored the relationship between normalization and the increasing biomedicalization of HIV management (Hughes, 2017; Philpot et al., 2020). Adherence to treatment and maintenance of an undetectable HIV viral load was found to enable some couples to turn a blind eye to HIV in their relationship, at least in the narratives they share emphasizing the normality of their relationship (Hughes, 2017). Hughes (2017) critically engaged this ‘discourse of normality’ to make explicit the challenges faced by mixed-status couples that risk erasure through homogenizing narratives of normality.

Building upon this theoretical framework, we introduce the concept “dual pharmaceutical citizenship” resulting from our findings on how biomedicalization manifests in mixed-HIV status couples, drawn from in-depth qualitative interviews collected as part of Positive Plus One, the first large-scale study of the lived experience of mixed-HIV-serostatus couples in Canada. We explore how biomedicalization manifests in mixed-status relationships through observable processes of normalization. We aim to understand how and why these narratives of normality are constructed in the first place, and the ways in which positive and negative partners co-create, sustain, and benefit from these processes at an intra-couple level. We argue that the everyday lives of mixed-HIV status couples in our study were shaped and affected by biomedical knowledge, values and adherence to ART. In particular, adherence played a central role in relationship dynamics and narratives of what makes their relationship work.

Methods

Positive Plus One is a mixed-methods study conducted 2016 to 2019, consisting of structured surveys (n=613) and in-depth qualitative interviews (n=51) with mixed HIV-serostatus couples across Canada. We recruited couples where one partner was HIV-positive, the other HIV-negative that were currently or had been seeing each other for at least three months, lived in

Canada or had lived in Canada during their relationship, and were aged 18 or older. People in previous mixed-status relationships were recruited to enable analysis of relationships in different stages, including those that had since ended. To minimize recall bias, the previous relationship had to have been in the past two years. Positive Plus One obtained ethics approval from the University Toronto Research Ethics Board (Protocol 31855), McGill University, University of Saskatchewan, St. Michael's Hospital, Toronto Public Health, Nova Scotia Health, and Prince Albert Parkland Health Region. All other recruitment entities accepted pre-existing approvals through coordinated processes. This study was funded by the Canadian Institutes of Health Research (Grant number MOP-137009).

The present article reports on qualitative findings from 60–90-minute in-depth interviews conducted among a subset of survey respondents. Interviews aimed to provide an opportunity to hear in participants' own words how their relationship began and evolved over time. At the end of the survey, respondents were asked to indicate their interest in participating in an in-depth telephone interview. Out of 613 survey respondents, 317 people volunteered (280 current and 37 past partners volunteered). For 60 couples both partners volunteered to take part. The final sample was purposively sampled for a heterogenous mix of couples, and HIV-positive and -negative individual participants reporting low relationship satisfaction or only previous mixed-HIV status relationships.

Fifty-one qualitative interviews were conducted between 2017-2018 by experienced interviewers in English (n=46) and French (n=5). All interviews were audio-recorded, with consent, and transcribed verbatim, with identifying information redacted. All participants were assigned a pseudonym by the study team to maintain confidentiality. Prior to analysis, French interviews were translated into English by experienced translators. Translated quotes are not identified as such to ensure confidentiality. Due to the low number of French interviews, it is possible their partners could identify their quotes if they were marked as translated. Interview

participants included both partners in a mixed-status relationship at time of interview (n=38, 19 HIV-, 19 HIV+), one partner in a current relationship (n=9, 3 HIV-, 6 HIV+), and people who had previously been in a mixed-status relationship (n=4, 2 HIV-, 2 HIV+). All participants were interviewed individually. Interviewees identified as LGBTQ+ (n=35), heterosexual (n=15), or did not identify with any sexual orientation (n=1). Participants' age ranged from 23 to 69 years old (average age=43), with most identifying as male (n=41), and the rest identifying as female (n=10). For detailed demographic information, see Tables 1 and 2.

Given the exploratory nature of the study's research goals, we pursued inductive thematic analysis (Guest, 2012). Additionally, dyadic analysis enabled us to see both partners' perspectives and facilitated a richer understanding of each relationship dynamic. Two study team members (MR and MY) coded the interviews using Dedoose Version 8.3.43 qualitative analysis software. To ensure inter-coder reliability, each analyst initially coded two transcripts independently, switched, and then discussed their choices with the study team. Following this, the analysts consolidated initial codes into a preliminary codebook, re-coded these initial four transcripts and proceeded to code the remaining transcripts. To support inter-coder reliability, both analysts had access to each other's code definitions, shared the same codebook, and collaborated on analytic memos throughout the coding process. Qualitative study team members (JM and AD) reviewed the coding progress to ensure consistency and quality.

Results

Biomedical knowledge, values and adherence to ART were central to relationship dynamics. Many couples emphasized the importance of the negative partner learning HIV-knowledge. It was often described as a 'first step' or a turning point in the relationship. Couples also shared how this knowledge, especially U=U, contributed a sense of ease, empowerment, and safety in their relationship. Through biomedical knowledge and ART adherence, couples emphasized

how over time HIV became a non-issue in their relationship. These themes are illustrated below.

Learning HIV-related knowledge

“If we fought about his disease before, it was mostly because of misinformation.”

Hazel, HIV-negative, heterosexual female

For many couples in this study, HIV-related knowledge played a pivotal role in their relationship, specifically the need for HIV-negative partners to learn the biomedical language of viral loads, ART and U=U. Some negative partners had very little prior HIV-knowledge. Wilson recalled that before meeting his positive partner, he “didn’t know anything about HIV.” In these cases, positive partners often took an active role in their partner’s learning. For example, HIV-positive partner Jerry freely shared HIV-related information with his HIV-negative partner Harry, particularly around transmission risk, undetectability and treatment as prevention in Canada. Harry reflected on this experience and the reassurance it provided:

I’m lucky because my partner is a doctor, so he is able to explain to me the difference for example between HIV and AIDS and to talk about medical interventions and associated risks at the level of sexual relations and so I know that it reassured my partner mostly. I’m a little shocked at the medication he takes, but I learned that people with HIV in Canada adhere to medication to prevent the spread of the virus. So the virus is stable and now today I think that a lot of people who live with HIV are like, I have the word in English, ‘undetectable’. They cannot detect the virus. So there are more people with HIV who continue to live like any other so that it’s just that they have the virus in their body. So I think that it reassured me a lot and equally my partner always told me that if I have questions, to embarrass him and ask him the questions and he would give me the answers. (Harry, HIV-negative, LGBTQ+ male)

In the above quote, Harry highlighted that his positive partner gained this knowledge from their lived experience with HIV as well as by being a medical professional and expressed that adherence to treatment as prevention is a norm in the Canadian context.

Some negative partners came to the relationship with extensive HIV knowledge. For instance, negative partner Gregory learned about HIV through his career as a healthcare professional. Another negative partner was familiar with the HIV epidemic as a member of the

LGBTQ+ community. The importance of this baseline knowledge was illustrated by positive partner's reactions to it. For example, Ron was grateful for his negative partner Gregory's HIV-knowledge. In the following excerpt, Ron elucidated several tacit expectations around HIV-related knowledge in mixed-status relationships:

People in cities - the gay men there, they're pretty savvy about all of this but in rural areas [...] even the ones who live in, you know, the city. It's still extremely rural and backward. There is simply no knowledge out there. And when I found [partner], who had no experience sexually and knew so much more, I thought, 'Oh my gosh! Thank you god!' (Ron, HIV-positive LGBTQ+ male)

Ron expected Gregory to have little HIV knowledge based upon geography and lack of prior MSM sexual experience, the latter potentially reflecting stigmatizing associations between HIV and MSM. Expecting people in rural areas to be uniformed may reflect differential access to HIV-related resources. Ron was happy to have his assumptions proven wrong, underscoring the importance of this biomedical knowledge.

The learning process rarely ended with an intra-couple conversation. For example, many couples sought further validation and support from trusted biomedical authorities, such as doctors:

I didn't want him to take my word. So we took out many documents that I read and I made him read them. Before having unprotected sex, I wanted to talk to my doctor. I was absolutely sure, but just to be double absolutely sure [laughs]. I went to talk with my doctor and he confirmed that it wasn't necessary to use protection. And since then, and after [my partner] did the appropriate readings, we discussed other people too. And we decided to stop using protection. (Raymond, HIV-positive LGBTQ+ male)

Negative partners commonly turned to their positive partner's HIV specialist, their own doctor, or attended AIDS Service Organization (ASO) events when navigating the beginning of their relationship. The information learned was particularly useful early in the relationship when couples first discussed sexual intimacy and mitigating transmission risk. For example, Derek recalled the importance of debunking outdated myths around HIV transmission risk through ongoing education:

I think the best thing for that was learning a bit more and kind of getting rid of some of the out-of-date information that I had in my head. That was a huge part. So, understanding how seroconversion actually happens and the likelihood and how to have safe sex and all of that sort of thing definitely helps. Most of that was through education and that happened over probably the first year and while we were still friends and not in a relationship. (Derek, HIV-negative LGBTQ+ male)

However, without a knowledgeable and open HIV-positive partner, it can be less clear for negative partners where to go for more information. Negative partners who were LGBTQ+, healthcare professionals, and/or injection drug users tended to either have other HIV-positive friends or knowledge of resources they could access beyond their positive partner.

Throughout these interviews, a theme emerged around the ‘right’ kind of knowledge. For example, negative partner Hazel recalled conflict early in their relationship due to HIV misinformation. She shared information with her positive partner who was diagnosed with HIV during their relationship:

If we fought about his disease before, it was mostly because of misinformation. Like, when I would give him information, he didn’t want to necessarily believe what I was telling him. He needed to find it out on his own. So the fights we had, it was more based on information vs. misinformation. It wasn’t actually about him being ill. (Hazel, HIV-negative heterosexual female)

At first glance, this suggests that learning HIV-related knowledge was a potential buffer to conflict, and as such played a notable role in building foundations of participants’ mixed-status relationships. However, it also reflected a hierarchy of information, where the positive partner “didn’t want to necessarily believe what I was telling him” and the conflict was only resolved once both partners had arrived at an agreed upon set of facts surrounding HIV and what this meant in the context of their relationship.

It was not always easy for negative partners to access HIV-related knowledge. For example, in this relationship the positive partner did not want to take on the educator role and this created stress for the negative partner:

At the beginning, I ask[ed] a lot of questions about HIV and that situation. I was a little uncomfortable [with] him because he always told me, ‘You are safe. I’m responsible. You will be [al]right. You don’t have to ask me that kind of thing.’ But I feel many

curiosities about how to prevent HIV [...] so I ask many questions and he sometimes becomes uncomfortable with me. [...] But when he doesn't tell me information about [HIV], I feel also a little sad because I want to know many things about [HIV]. So I start to read for myself and then I do not ask more about [it]. [...] When I was asking many questions of my partner and he refused to give me more information, I [asked] my other friend and the other friend made me feel more comfortable when they told me, for example, 'No don't worry, he's undetectable. Everything will be okay with you.' We just have to use condoms and everything will be okay. (Wilson, HIV-negative LGBTQ+ male)

In the above excerpt, the positive partner deflected requests for more information, assuring Wilson that "You are safe. I'm responsible. You don't have to ask me that kind of thing." The positive partner's discomfort reflected the biomedicalization of HIV treatment as an individual moral responsibility, whereby they assumed that if the negative partner had to ask, it must be because they suspected he was being 'irresponsible.' It was framed as a breach of trust. As a result, Wilson sought HIV-related information beyond the couple, as he felt it was important to access it, whether it came from his partner or not.

Me and U=U

"Before that I was very scared, even if I was undetectable, it wasn't as clear as today that the risk was very low, all that. Today I am a lot more comfortable in my relationship with him."

Cody, HIV-positive LGBTQ+ male

Positive and negative partners alike described how learning HIV knowledge brought benefits to the relationship. Many couples described how early fears of transmission have lessened or disappeared over time. For instance, negative partner Lewis credited learning about HIV in addressing these fears: "I've become educated about it, not being so fearful." Negative partner Jimmy echoed this experience, highlighting the reassurance that his positive partner was undetectable: "It's certain that the fact that [Lucas] is undetectable, it's reassuring. So the fear has gone, we can say with time or has diminished in any case with time."

Learning about HIV, in particular the U=U discourse, not only alleviated fears for many mixed-status couples, it often brought couples a sense of comfort and safety. In the following

excerpt, HIV-positive partner Ella shared her relief at the reduced transmission risk from being undetectable: “It’s the safety or that sort-of safety in the knowledge that it - I’m not going to transmit, that I’m undetectable and I’ve been undetectable forever.” HIV-positive woman Erika also shared how U=U had made her more comfortable pursuing mixed-status relationships:

I do enjoy that I am undetectable and on treatment as prevention from transmitting so that makes a stronger case to also be more comfortable dating somebody negative. Therefore, I know I won’t be able to transmit it to them. Of course, even three years ago, before we knew about U=U and so on, so forth, I was still okay with dating somebody negative, using obviously barriers as a choice of protection. (Erika, HIV-positive LGBTQ+ female)

Here, Erika acknowledged her own agency by mentioning risk management strategies prior to U=U. This underscored that U=U does not, in and of itself, make mixed-status relationships possible or functional; they have always been possible. While people were resilient and found ways to navigate the challenges of these relationships, U=U can help to decrease the focus on transmission risk within the relationship.

Still, U=U and other biomedical framings of HIV appeared to make mixed-status relationships easier for many. Participants often brought up the health benefits for the positive partner. For example, negative partner Gregory considered his experience in a mixed-status relationship relatively easy given his own access to biomedical information and his positive partner’s good health:

My experience with being in - getting into a - serodiscordant relationship has been very - for the most part very positive for me and I realize it’s not as easy for some couples. Whether it’s the fact that the positive partner may not be as in excellent health as mine or the negative partner not being, having as much access to correct information that I do and access to such a respectful and open physician as I [do]. (Gregory, HIV-negative LGBTQ+ male)

The role that U=U discourse can play in making day-to-day life in a mixed-status relationship easier was also demonstrated in the following excerpt from an HIV-positive partner discussing a mixed-status relationship that had ended two years prior to the interview:

I wish we’d been told about U=U. I’ve been undetectable for many, many years at that point and so we didn’t need to use condoms, but we didn’t know. We weren’t told. So

if we'd been told the correct information, I'm not sure it would have saved our relationship but it certainly would've made it easier. (Robin, HIV-positive heterosexual female)

Although Robin was careful to acknowledge U=U may not have saved the relationship, she expressed that knowing this information would have made things easier, which is consistent with other participants' experiences.

Empowered by U=U and dispelling stigma around transmission risk and prognosis, participants shared how ART made it possible to live longer lives and imagine futures together. In fact, unlearning HIV stigma was directly linked to relationship function by some partners. For example, negative partner Derek credited learning more about HIV with his growing comfort in the mixed-status relationship:

I'm quite comfortable with it today. I would never say I was 100 percent comfortable, that would be a lie. And however, I've come a long way, through education I think basically. So that was really the largest part. At first logistically, I think I just didn't understand how it would work long term. (Derek, HIV-negative LGBTQ+ male)

Learning biomedical HIV knowledge supported participants in rejecting old narratives that HIV was a death sentence while enabling them to embrace new narratives where, as Arianna (HIV-positive LGBTQ+ female) said, "everything is pretty much like a normal couple."

Making HIV mundane

"At first, I was kind of worried [HIV] was all we were going to talk about in our relationship, but actually, most days I forget that he has it, so then, to me, it's not a big deal."

Felix, HIV-negative LGBTQ+ male

As the relationship progressed, many couples mentioned that HIV was no longer a topic of discussion – it had been normalized. When describing how HIV impacted their relationship, negative partner Tommy compared HIV to diabetes: "It is just as if, like, he had diabetes or some other thing that [he] had to just live with and he takes medication for. And it's really something that I rarely even think about." Comparisons to other chronic diseases were

common, particularly diabetes as its management also typically involves daily medication and blood monitoring.

HIV's "background role" in the relationship was often linked to the positive partner's physical health: "He keeps up. Tries to go exercise and stuff like that. You know, we can go out together and go for runs and walks and he's fine, so like, it's like he doesn't really even have HIV" (Felix, HIV-negative LGBTQ+ male). Accordingly, careful medical management of HIV emerged as a common thread between HIV's invisibility in the relationship and the creation of a normal life narrative:

She takes a pill a day and she's living a normal life. (Craig, HIV-negative, heterosexual male)

Honestly, I don't think we really know that I'm positive, at times, anymore. Unless it's actually like, even taking my medication, it is just something that I do now...HIV rarely comes up. It's like the only time that I realize that I still have it is when I have to phone to renew my prescriptions and get that filled every month. (Nicholas, HIV-positive, LGBTQ+ male)

Positive partner Charlie made this link even more explicit when sharing how HIV did not impact his current relationship *because* he was undetectable:

At the beginning it played a larger role because I was not nearly as, I was taking a lot of medication and I was not undetectable and my transmission [viral] load was high, so it played a higher factor. But over the years, it diminished and now it plays a lower factor and it is not as much of a risk, unless I have an unrelated medical condition which could influence my health. But normally, at this time now, it doesn't really affect the relationship as much. (Charlie, HIV-positive LGBTQ+ male)

HIV played a larger role in his previous mixed-status relationship when his HIV was not medically managed. When asked to expand on his earlier comment that HIV was not an issue in their relationship, negative partner Bruce echoed this experience:

I think one of the big contributors to [HIV not being an issue] would be the fact that his HIV status is very, very much under control. He's now, [...] he has rebuilt his immune system and so on so the medications are having a very good, very helpful effect for him. So that's a big piece of it. (Bruce, HIV-negative LGBTQ+ male)

The above excerpt reinforced that the positive partner's good physical health was directly related to adherence and the importance of ART.

Making HIV mundane did not mean making it invisible. HIV maintained a constant presence through careful medical management. This was clear in the following excerpt where negative partner Carter described how HIV influenced their daily life in the relationship:

In our day to day lives, aside from the medication and the few medical appointments that he has relatively often - appointments that I, on the other hand, to pass test to always be [unclear] that I haven't contracted HIV, it doesn't change too much. It's part of life. (Carter, HIV-negative LGBTQ+ male)

This quote demonstrated how couples minimized the impact of HIV within the narrative of normalcy while underscoring the centrality of biomedical self-surveillance and adherence. "That I haven't contracted HIV" doesn't exist without "the medication and the few medical appointments that he has relatively often." Several HIV-negative partners took on an active role in this adherence, providing regular reminders about their partner's medication. Garth described how he supported his partner in a previous mixed-status relationship:

If we were having like a really busy day like you know when you're travelling and you have a really full schedule, reminding him to take his meds on time because I know how important it is for his health that he be consistent with it so I think I came from having all sorts of questions and fears to just trying to be supportive um and I didn't worry about [my partner being HIV-positive] very much. (Garth, HIV-negative LGBTQ+ male)

This emerged as the mundane of long-term mixed-status relationships: HIV was considered a familiar but insignificant part of romantic life.

When describing what social supports were needed for mixed-status couples, negative partner Theo said, "We have what we need to keep going, which is medication for my partner." This exemplified the centrality of ART to the discourse of HIV care and its prevalence in how both partners in mixed-status relationships talked about their relationship and its needs. The narrative hinged on the following biomedical assumptions: the positive partner had ART, their viral load was undetectable, and HIV remained untransmittable.

One HIV positive partner shared a different narrative. Like other interviewees, Gavin was adherent to ART and generally supportive of biomedicine (e.g., he had recently encouraged his partner to get a family doctor). However, he did not see ART as an agent of normalization:

And I hate [HIV]. I fucking hate it. I would give anything just to be normal again, to just have normal concerns. [...] I just don't want to take my medication but I've met people - I know what happens if I don't. (Gavin, HIV-positive male, sexual identity not disclosed)

Explicitly rejecting the narrative of normality, he expressed an ambivalent wish to stop ART but ultimately felt that is not an option. He expressed that he did not want his partner to go on PrEP, framing ART as a personal sacrifice he made for their relationship:

These are powerful fucking drugs and I don't think that everyone fully understands and I hate the way they make me feel so no. I told her [PrEP is] an option but totally unnecessary. [...] I'm on them so she doesn't have to be. That's the way I see it. If I ever fell out [of] medication then but as long as the drugs are working and these drugs are super sophisticated, it's just redundant. (Gavin, HIV-positive male, sexual identity not disclosed)

The above excerpt demonstrated the tension between a respect for ART's efficacy as "super sophisticated" medication and his hatred for treatment side effects. From his perspective, HIV played an active role in making his life and romantic relationship harder. In the following excerpt, he described the mental health impacts of his HIV diagnosis and the incredible visibility of HIV in his life:

Without psychological support, you might as well just take my medication away 'cause there's no point. It's not just the physical side and you just leave the psychological side alone. I don't know what other people's experiences were but for me they're equal. Okay, I'm taking pills that I can survive but why? It's not until you answer the why that anything's worthwhile. (Gavin, HIV-positive male, sexual identity not disclosed)

For Gavin, biomedical intervention alone was not enough. This provided a helpful counter-narrative and elucidated one final assumption around ART, U=U and HIV management in mixed-status relationships of study participants: both partners, but especially the positive partner, had to believe that the very real work of medical management (e.g., self-surveillance, compliance, side effects) was worth it.

Discussion

In making HIV mundane, most couples shared some version of a normal life narrative hinged on placing HIV on the back burner, grounded in two key assumptions: 1) the negative partner learning HIV-related knowledge, in particular U=U and 2) the positive partner having managed HIV through antiretroviral therapy (ART) adherence. First, we illustrate the ways in which these findings support previous studies. We then extend our analysis to highlight the implications of our findings for relationship function and dynamics, drawing on biomedicalization theory (Clarke, 2003) and Persson's (2016) application of pharmaceutical citizenship in the context of mixed-status relationships.

Our study demonstrated how relationship dynamics intersect with biomedical recommendations, a nuance that is often lost given the emphasis in biomedicalization on individual responsibility and self-regulation (Clarke, 2003; Giami & Perrey, 2012). By applying a dyadic study design and analysis, we elucidated the ways in which both partners are impacted by biomedicalization. Some were more obvious, such as the positive partner's regular viral load testing and the ways in which negative partners reminded their partner to take their medication. A more subtle example was the way in which negative partners were expected to either come to the relationship with prior biomedical knowledge or take the initiative to learn from trusted sources, most often their positive partner, medical professionals or a local ASO. We found that this knowledge was not absorbed passively but interacted with the relationship dynamic through presumed action: ART adherence with a long-term goal of achieving viral suppression. In line with findings from an Australian study of mixed-status couples, pursuing viral suppression also required ongoing negotiations of trust, both between partners and in biomedicine itself (Newman et al., 2017). Importantly, positive partner's adherence to ART emerged as a shared baseline assumption in nearly all the relationships described by participants.

Past studies with mixed-status couples found that ART adherence played a key role in these relationships by fostering feelings of normality and the possibility of a future together facilitated by protecting each other's physical health (Newman et al., 2017; Persson, 2016; Philpot et al., 2020). Similarly, participants in our study had difficulty imagining a future without ART. In previous work, the emphasis on normalization is framed as an empowered, active rejection of stigmatizing stereotypes and misconceptions about mixed-status relationships (Philpot et al., 2020). Although normality requires ART adherence and the daily work of medical management, our interviewees consistently revealed that this "work" was not necessarily burdensome. In fact, it was usually taken for granted or rendered 'invisible', something that did not impact their day to day lives. Accordingly, we found that biomedical knowledge and technoscientific intervention normalized HIV and minimized its perceived impact on the relationship for both partners.

Interviewees demonstrated how processes of biomedicalization, such as normalization, can help build, nurture, and strengthen mixed-status relationships. For example, biomedical knowledge offered a sense of ease and empowerment pursuing their mixed-status relationship for both partners. In accordance with previous studies, it also lessened fear of transmission (Persson, 2016). In our study, learning was often portrayed as a turning point (e.g., "before/after I was educated", "first I educated myself") that supported de-stigmatization, the ability to imagine a future together, and the rejection of outdated stereotypes, especially the idea that HIV is a death sentence. In line with Philpot and colleagues (2020), our findings illustrated how this manifested at the interpersonal level. For example, Robin (HIV-positive heterosexual female) mentioned that if they had known about U=U, it would have improved the quality of their previous mixed-status relationship. Persson (2016) extends this effect to the societal level, noting that "increasing biomedicalization of public health and the allied discourse of 'normalisation' can in fact de-marginalise stigmatised relationships and sexualities" (p.380).

These expectations form the basis for a *dual pharmaceutical citizenship* which signifies the emerging obligations for both HIV-positive and HIV-negative partners as HIV management becomes increasingly biomedicalized. We introduce this term as an extension of Eck's pharmaceutical citizenship, as applied by Persson and colleagues in the context of people living with HIV (Persson, 2016; Persson et al., 2016b). Dual pharmaceutical citizenship refers to how both partners are held to the expectations of citizenship at the interpersonal and societal levels. These two jurisdictions, the interpersonal and societal, each bring interrelated, albeit distinct, expectations. This theoretic framing can help make sense of mixed-status relationship dynamics in a given biopolitical context, where both partners have distinct responsibilities in order to become citizens.

Dual pharmaceutical citizens have obligations to each other and to the society in which they live. The HIV-positive partner's obligations, particularly ART adherence, are clearly outlined by Persson and colleagues (Persson, 2016; Persson et al., 2016b). For the HIV-negative partner, we found that couples placed high importance on them learning biomedical knowledge or coming to the relationship already informed. Negative partners demonstrated the 'biomedicalized intimacy' of pharmaceutical citizenship at the interpersonal level through medication reminders, or by reinforcing the discourse of normality when talking about the minimal role of HIV in the relationship, i.e., likening it to other chronic illnesses such as diabetes. Together, these dual pharmaceutical citizens take up biomedical knowledge to co-create a solid foundation for their relationship. As demonstrated by the ways participants took up U=U messaging, biomedicalized intimacy also included bringing comfort, ease, safety, and reduced transmission fears, while supporting imagined futures and its de-stigmatizing potential. Crucially, the term dual pharmaceutical citizenship reflects our finding that for the positive partner to fully experience the legitimizing and normalizing benefits of citizenship, the negative partner had to engage with biomedicalization. Even negative partners who had a more

hands-off approach to their positive partner's HIV management were implicated in the processes of biomedicalization, particularly normalization, by the trust they placed in their partner and the medicine itself (Newman et al., 2017). Trust may be considered a form of biomedicalized intimacy in mixed-status relationships, where "trust in partners involved an explicit expectation that the positive partner would achieve very high levels of adherence with their treatment regime" and transparency about test results" (Newman et al., 2017, p.273).

The dominant discourse of U=U also required that participants place trust in public health systems. This was tacitly expressed through ongoing self-surveillance by positive partners, engagement with biomedical knowledge by negative partners, and the co-creation of normalization narratives. Notably, participants' actions on behalf of the greater good were grounded in their interpersonal relationships rather than an abstract altruism. This may be one reason why U=U has been such a transformative, albeit hegemonic, discourse in recent years: this population-level guidance to reduce HIV transmission within relationships led to tangible changes and self-defined normalcy for mixed-status couples in this study. U=U provided meaning to measures of risk (e.g., undetectability as goalpost), as couples could learn its language (e.g., viral loads), take up its benefits (e.g., unprotected sex with little to no fear of transmission), and return to a "normal life". What normal meant for participants varied, but common themes included: their partner being healthy, having unprotected sex, dispelling myths about HIV being a death sentence, having children together, being physically active, and not having to think about HIV in everyday life. In other words, HIV as a social identity became as "undetectable" in their lives as the virus was in their bodies. The discourse of normalization was embodied by dual pharmaceutical citizens, whereby normative obligations for population health (the Treatment as Prevention side of the U=U coin), and daily life run a parallel course toward "invisibility" of HIV at the population and interpersonal levels.

There are several implications of dual pharmaceutical citizenship and its obligations. First, biomedicalization produces a dominant discourse as the ‘rational’ way to approach HIV treatment (Giambi & Perrey, 2012). The rational approach in question (U=U and TasP) can also be understood through the lens of biopolitics (Foucault, 1973). As Foucault (1973; 1977) observed, medicine exerts control through processes of inclusion and normalization to produce compliant or ‘docile bodies.’ U=U’s hegemonic characteristics stem from both trust in and sustained legitimacy of biomedical authority, as well as increased responsibility placed upon individuals to engage in self-surveillance on behalf of the state. Foucault (1977) outlined these societal shifts in medicine in his foundational work *Birth of the Clinic* where he described how the clinical gaze has shifted over time from an interest in lived experience to the treatment of a passive patient reliant on, and entrusted to, medical authority. In the same way, U=U increases attention to external markers of the positive partner’s health (viral load) rather than lived experience, while privileging a ‘disciplined, docile body’ – one that engages in rigorous self-surveillance. This was illustrated in our study by the way in which several partners, regardless of serostatus, equated the positive partner’s health with their viral load, or equated the ability to pursue a normal relationship with being undetectable. Consequently, dual pharmaceutical citizens are governed by biopolitics to reduce transmission of HIV at the population level through ongoing medical management and biomedicalized intimacy at the interpersonal level.

What does this mean for couples who challenge this narrative? Although a majority accept U=U as accurate and may be guided by, and benefit from it, there is a critical minority who may not (Rendina et al., 2020). Producing a rational approach to HIV management creates new avenues for HIV-stigma, by labelling dissenters as “irrational” (Newman et al., 2015; Persson et al., 2016b). Persson and colleagues argued that despite the destigmatizing promises of pharmaceutical citizenship, its homogenization of HIV-management can “define *new margins* of inclusion and exclusion in relation to HIV: Who is ‘in’ and who is not, who is acting

wisely and responsibly or not, and who is deemed a proper HIV citizen and who is consigned to the ‘difficult ‘fringe’ (Persson et al. 2016b, p.370). As dual pharmaceutical citizens, our interviewees highlighted the obligation of learning HIV-knowledge; however, it is taken for granted that the knowledge learned is biomedical in nature. It is not just the processes of learning HIV knowledge and making HIV mundane, but a particular kind of knowledge that requires tangible technoscientific action and ongoing self-surveillance (Giami & Perrey, 2012; Young et al., 2016). We found that these hegemonic processes had pervasive impacts on relationship dynamics, as demonstrated by Gavin’s counter-narrative and its intersection with mental health. Although Gavin hated his medication and resisted the narrative that ART normalized his life or relationship, he did not see non-adherence as a possibility. His narrative also highlighted that the other couples had reached a new normal by redefining what normal meant for their romantic relationship. Gavin made explicit the way this dynamic differed from his “normal” pre-diagnosis. Everyone else in the study appeared to have come to terms with the role of medication in their relationship. It was integrated into their lives and its side-effects had been accepted over time. Without psychosocial support, Gavin appeared not to accept this new normal and HIV remained exceptional in his relationship. This illustrated a final nuance of dual pharmaceutical citizenship: the biomedical model could facilitate a new normal, conditional on psychosocial acceptance of the diagnosis and life-long ART adherence.

While our study demonstrated how mixed-status relationship dynamics have been biomedicalized, biomedical epistemologies represent only one way of knowing. Adam (2011) provides a critical account of TasP, arguing that “HIV-prevention need not be an either/or choice between competing or antagonistic knowledge systems.” It says something about our sample, and the context of promotion and access to ART in Canada, that most participants described a net benefit from the biomedicalization of their relationship dynamic. As of 2018, 85% of people in Canada diagnosed with HIV were on treatment, 94% of whom had

undetectable viral loads (PHAC, 2020). This is similar to our sample (96% on treatment, 88% of whom were undetectable). “Stratified biomedicalization” emphasizes the uneven effects and non-uniform experience of biomedicalization, with the potential to exacerbate social inequalities (Torres-Cruz & Suárez-Díaz, 2020). In relation to our findings, both partners regularly invoked the language of viral loads and U=U and emphasized the importance of learning biomedical knowledge as a vehicle for de-stigmatization and solidifying the foundations of their mixed-status relationship. Conversely, Jongbloed and colleagues’ (2019) review of lived experiences of Indigenous people living with HIV found that this language, such as equating health to viral load, seldom came up, and sometimes not at all. These participants described HIV “as both a physical and emotional disease” (Jongbloed et al., 2019). However, for participants in our study, it was largely the physical, particularly the biomedical, aspects of HIV that were emphasized within the relationship, with the exception of Gavin who emphasized the mental health and emotional impacts of his diagnosis. Although biomedicalization was central to these participants relationships, this should not be extrapolated to all mixed-status relationships, especially people for whom biomedical ways of knowing are not their primary way of relating to physical health.

Strengths and limitations

These data are specific to a Canadian biopolitical context where ART is publicly funded and relatively accessible, TasP is the dominant discourse on HIV medical management, and the epidemic is fairly controlled. As such, most participants took for granted medical authority and biomedical intervention as a necessary and normalizing part of their day to day lives. Our findings supported work by Persson and colleagues in Australia, which has a similar HIV context. Accordingly, our findings may not reflect settings with different access to medication or dominant ways of knowing, and other related consequences of stratified biomedicalization (Torres-Cruz & Suárez-Díaz, 2020). Another limit is our sampling method. Our sample was

purposively selected from a larger sample recruited primarily from HIV clinics, ASOs, and sexual health clinics. This may have underrepresented those who do not readily accept ART or its related biomedical epistemologies. Additionally, as a subset of larger mixed-methods study, those who agreed to participate in qualitative interviews could be biased toward couples who were happier with their relationships. We attempted to mitigate this by purposively sampling for individuals who had been in mixed-status relationships that had already ended. A notable strength of the study was its heterogeneity. Participants had diverse lived experiences in terms of age, sexual orientation, race, immigration status and socio-economic status. Although this heterogeneity is a strength, note that the above analysis does not provide an in-depth account of how the intersectional axes of mixed-status experience relate to the processes of biomedicalization. We focused here on shared themes across mixed-status relationships; further research among subpopulations that attends to the intersectionality of these lived experiences is needed.

Conclusions and future directions

As “biomedical technosciences create new categories of health-related identities and redefine old ones,” so too they redefine relationship dynamics (Clarke et al., 2003, p.182). We have demonstrated how biomedicalization manifested in everyday life of mixed-status couples by highlighting the de-stigmatizing potential of biomedicalization through processes of normalization and its positive contributions to relationship function in the Canadian context. We discussed the importance of learning biomedical knowledge for many mixed-serostatus couples, the empowering yet hegemonic influence of the U=U discourse, and its role in rendering HIV mundane through routine ART adherence. We also explored the tacit responsibilities faced by both partners by invoking the notion of ‘dual pharmaceutical citizenship’, a phenomenon that reflects both the benefits of biomedicalization, such as normalization, feelings of comfort and empowerment, and the potential to activate new avenues

for stigmatizing those who do not conform. To further unpack this phenomenon, future studies may wish to pursue targeted inquiry into the symbolic role of doctors in mixed-status relationships and the implications of medical authority that sanctions particular forms of intimacy. Persson cautioned: “vigilance is required in the new HIV treatment era to ensure that as TasP opens new possibilities, others do not close.” (Persson, 2016, p.392). Future studies should focus on couples where one or both partners have a primary way of thinking about health and wellness that is not biomedical, or where one or both partners do not readily accept, or have access, to biomedical information. There is a need for studies that investigate how ART non-adherence is experienced for mixed-status couples in an era where information about U=U and TasP is increasingly privileged as the ‘right’ way to approach living and loving with HIV today.

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