

This is a post-peer-review, pre-copyedit version of an article published in Journal of the Association of Nurses in AIDS Care. The final authenticated version is available online at:

<http://dx.doi.org/10.1016/j.jana.2014.02.005>

Vescovi, G., Pereira, M., & Levandowski, D. C. (2014). Protective factors in the experience of pregnancy and motherhood among Brazilian adolescents living with HIV: A case-series report. *Journal of the Association of Nurses in AIDS Care*, 25(6), 541-554. doi:10.1016/j.jana.2014.02.005

Abstract

Pregnancy, motherhood, and HIV infection in adolescence are events with relevant biological, psychological, and social implications for mothers, their babies, and families. Our study aimed to identify protective factors of the experience of pregnancy and motherhood among young mothers living with HIV, highlighting similarities and differences. A mixed methods multiple-case study was conducted with 3 young primiparous mothers (ages 17 to 19 years), whose babies were 4 to 6 months old. Participants were recruited from specialized care services in Porto Alegre, Brazil. Data were collected using social support and adherence-to-treatment questionnaires and a semi-structured interview. The following protective factors were identified: positive feelings about motherhood, positive assessments of received care and couple relationships, disclosure of HIV diagnosis to family members, family support, and accountability for infant care. Longitudinal studies would enhance the understanding of these factors, particularly if carried out with adolescents of different ages and focused on coping strategies.

Key-words: adolescence, HIV, motherhood, nursing, pregnancy, protective factors

Since the 1990s, there has been a 26% increase in fertility rates among adolescents in Brazil (Brazil Ministry of Health [MOH], 2006). Adolescent pregnancy and motherhood are events with relevant bio-psychosocial implications for young women, their babies, and their families. The literature related to adolescent pregnancy has reported high levels of emotional distress (Milan et al., 2004), difficulties in marital/partner relationships and high divorce rates (Raj, Rabi, Amudha, Edwin, & Glyn, 2010), feelings of loneliness and isolation due to compromised leisure activities (Heilborn et al., 2002), and greater likelihood for dropping out of school (Barnet, Arroyo, Devoe, & Duggan, 2004). Because of these outcomes, adolescent pregnancy is considered a public health problem, not only in Brazil (Mayor, 2004), but also worldwide (Langille, 2007; McLeod, 2001).

The bio-psychosocial impact of adolescent pregnancy and motherhood may be greater when the young woman learns she is infected with HIV during this period. To the best of our knowledge, only one Brazilian study has addressed the experience of living with HIV in teenage mothers. Paiva and Galvão (2006), describing the case of a pregnant adolescent (16 years of age) who was multiparous and of low socioeconomic status, reported the following outcomes: short interval between gestations, non-adherence to antiretroviral therapy (ART) to reduce vertical transmission, and non-recognition of HIV infection as a problem. In the international context, to our knowledge, only two studies have examined the experience of HIV in teenage mothers. Meloni et al. (2009) studied the feasibility of appropriate prenatal care for two pregnant Italian women (17 and 19 years of age), themselves infected by mother-to-child transmission (MTCT), and found potential difficulties in ART maintenance after birth. Abdalian and Wright (2000) studied pregnancy as the context in which young women initiate ART earlier. According to these authors, young mothers were more likely to meet the needs of children than their own health. This could explain the low engagement of young mothers in consultations after childbirth (Meloni et al., 2009).

Based on studies with adult women, it has been assumed that HIV infection would impact the adolescent experience of pregnancy and motherhood. Studies have identified the emotional overload that these events, when experienced together, generate, reflecting fear, guilt (Pereira & Canavarro, 2012), and concerns about the child's health, specifically in regard to MTCT (Pereira, Dattilio, Canavarro, & Narciso, 2011; Sanders, 2008). Conversely, motherhood has also been found to be a

motivating force, a demonstration of life and "normality" that helped women adapt to an HIV diagnosis and adhere to ART (Sandelowski & Barroso, 2003a, 2003b).

However, each young mother deals with pregnancy and motherhood differently, according to individual, familial, historical, and sociocultural factors (Heilborn et al., 2002). Therefore, it is reductionist and deterministic to describe pregnant adolescents/mothers living with HIV as a homogeneous risk group, reinforcing the need for a broader and contextualized look at these phenomena. The vulnerability of either the mother or the baby can be minimized by the potential needs of others, which will act as protective factors (Cerqueira-Santos, Paludo, Dei Schirò, & Koller, 2010). Indeed, identification of protective factors brings a new perspective to adolescent parenthood in the context of HIV, also allowing us to identify the potential impact of these events on the development of young mothers.

Protective factors refer to influences that (a) transform or improve personal responses to certain risks for maladaptation or illness, or (b) promote development and prevent problems (Rolf & Johnson, 1990). The literature highlights the need to use a process approach (Carvalho, Morais, Koller, & Piccinini, 2007) in the analysis of these factors, considering their interactions and how they change a person's trajectory. The aim of our study was to identify protective factors for the experience of pregnancy and motherhood among young women living with HIV and to identify their similarities and differences. As noted, the scarcity of studies on this topic shows the need to understand this population.

Methods

Participants

Participants were three young mothers (17-19 years of age), who received an HIV diagnosis during pregnancy or childbirth. All participants were first-time mothers and their children were between 4 and 6 months of age at the time of the study. Participants identified themselves as single, but in romantic relationships, in two cases, with the baby's biological father. None of the participants were employed or attending school. Table 1 presents socio-demographic data about the participants. In order to maintain confidentiality, the participants' real names are not used.

Participants were enrolled in a larger research project entitled, "Assessment and intervention

with seropositive adolescent mothers: Focusing on mental health, adherence to treatment and the relationship with the baby." The Research Ethics Committee of the Federal University of Health Sciences of Porto Alegre (UFCSPA; Protocol 10-617) and the other health institutions involved approved the study. All participants were enrolled in specialized HIV services in Porto Alegre, Brazil. A total of 20 young mothers were enrolled from February to October 2011; 8 young mothers refused to participate in our study and 9 were lost to follow-up because of changes in residence and/or telephone number, treatment abandonment, or change of health care location. Thus, the sample for our study included 3 adolescent mothers.

Procedures

This mixed methods study presents a multiple case studies design (Yin, 2010) of a cross-sectional nature. The first contact with the participants was held in health services, while they were waiting for clinical care. All participants were informed about the study's aims and provided written informed consent. A legal guardian also signed the consent form for the 17-year-old participant. Participants completed the socio-demographic form and two self-reported questionnaires on social support and adherence to HIV treatment. Permission for a telephone contact was also requested. In a meeting, scheduled at least 7 days later, an individual interview about motherhood in adolescence in the context of HIV was conducted, audio recorded, and later transcribed. Data collection was divided into two meetings to avoid overloading the adolescent and, thereby, compromising her participation. The meetings lasted 20 and 40 minutes, respectively. Participants and their companions were provided with funds to cover transportation expenses to the health unit.

Measures

We used a number of measures in the study. These are discussed below.

Socio-demographic and HIV-related information. Socio-demographic and HIV-related data were obtained in a brief questionnaire. We gathered information on age, education, professional situation, marital status, and socioeconomic status of participants and the baby's father, as well as information regarding HIV infection, such as gestational time when the HIV diagnosis was made, mode of HIV acquisition, and use of ART.

Social support. The Medical Outcome Study Social Support Survey (MOS-SSS; Sherbourne

& Stewart, 1991) is a 20-item measure of perceived availability of social support. Nineteen items assess five dimensions of social support: positive social interaction, emotional support, informational support, affectionate support, and tangible support. Each item is formulated for a 5-point scale ranging from 1 (*none of the time*) to 5 (*all of the time*). All scores were transformed to a 0-100 scale, with higher scores for subscale or for the overall support index indicating more support. Following the instructions of Pesce, Assis, Santos, and Oliveira (2004), transformed scores were categorized based in tertiles: low (0-33), intermediate (34-66), and high (67-100). In the Brazilian validation study, the MOS-SSS revealed Cronbach's alphas greater than 0.70 for all dimensions (Chor, Griep, Lopes, & Faerstein, 2001).

Treatment adherence. The Treatment Adherence Questionnaire for Women with HIV/AIDS, developed by Arrivillaga (2010), is a 21-item measure that assesses three dimensions related to treatment adherence: practices, meanings (motivations, beliefs, and affect), and barriers and living conditions. Each item is answered in a 4-point scale ranging from 1 (*never*) to 4 (*always*). The scores range from 21 to 84, and *low* and *high* levels of adherence were established as 21-61 points and 62-84 points, respectively. High adherence was defined as adhering to at least 64% of treatment requirements (corresponding to a score of 62 or higher in the treatment adherence questionnaire). The questionnaire has shown good reliability (Cronbach's alpha = 0.82) among Colombian women living with HIV (Arrivillaga, 2010).

Motherhood in adolescence and HIV infection. The Interview about Motherhood in Adolescence in HIV infection was adapted from an interview about treatment and the experience of motherhood with HIV, developed by Carvalho and Piccinini (2004), and an interview about adolescent pregnancy and motherhood developed by Piccinini et al. (2008). The objective of the interview was to assess expectations and experiences of motherhood; the perception of the relationship with the baby, partner, and family; and issues related to the diagnosis and treatment of HIV and the impact of HIV infection on daily activities, pregnancy, and motherhood.

Data Analysis

According to Yin (2010), case studies must rely on multiple sources of evidence. Therefore, we used a variety of measures, both qualitative (semi-structured interviews) and quantitative (self-

reported questionnaires). The MOS-SSS and the Treatment Adherence Questionnaire were analyzed, according to instructions provided by the authors, and constituted an additional source of information to support data from the interviews and contribute to data triangulation. The semi-structured interviews, after being transcribed, were thoroughly analyzed to identify protective factors, including psychosocial protective factors. Hence, some factors were defined a priori (e.g., social support, treatment adherence) and others were defined a posteriori (e.g., coping strategies) upon analyses. A researcher comprehensively analyzed the interviews, identified protective factors, and placed those factors into tables with illustrative speeches. The information was then analyzed by a second researcher, who verified the relevance and adequacy of the allocation performed by the first researcher. Subsequently, a report of each case was prepared in which all information collected and analyzed was integrated into a common framework. Finally, the findings were discussed using a cross-case analysis (Yin, 2010), which allowed researchers to identify similarities and differences in the cases.

Results

Case 1 – Anna

Experience of pregnancy. Although Anna had not planned her pregnancy, discovering it "was not a shock," as both she and her partner wanted a child. Prenatal monitoring began at 2 months in a private clinic because Anna had health insurance. She evaluated her pre- and perinatal care positively. ART started in the fifth month of pregnancy and continued after birth. Her biggest concern was the possibility of the child's infection.

Upon receiving her HIV test result, Anna said that she was calm. She already knew that her partner had HIV and so she expected to be infected as well: "What good is it to be in despair, if it is already done, it's done! The way is to take care and let be as God wills!" Anna revealed her diagnosis to her partner's relatives but did not reveal it to her family members, stating that she did not feel confident and secure enough to reassure them.

Anna said that being a mother mitigated her concerns regarding HIV infection: "It would be more difficult [to discover HIV without being pregnant]. Additionally, because I get entertained with him [her son], I think mainly of him for everything, so I take care." Anna said life changes arising

from the diagnosis included the constant need for condom use and health care, especially ART for herself and the baby. Regarding ART, she also mentioned concerns about the effects of the medication on her physical form.

Anna was assisted by an infectious disease specialist and participated in a group of HIV-infected pregnant women, coordinated by a psychologist. She stressed the importance of this activity: "You think it will never happen to you, you know, but then I saw that it was not just me who was in that situation." Anna said her partner supported her use of ART, although he did not carry out his own monitoring.

Experience of motherhood. When her baby was 4 months of age, Anna believed that her son was developing properly, due to positive feedback from the professionals who provided care for him. She discussed the problem of not breastfeeding:

It's a very boring thing, you know, that thing, "Ah, why don't you breastfeed him?" Then I say I had hepatitis, I will not go out telling the whole world, right? ... I thought it was going to influence his size, his development, but no, nothing like it.

Anna denied difficulties in bonding with her baby by not breastfeeding him. However, she said there were difficulties in the child's adaptation to infant formula and she used the practice of cross nursing or allowing other women to breastfeed the baby (Brazil MOH, 2000).

Anna thought that her concerns about caring for the baby were equal to those of any mother. She said she played regularly with the child and avoided being separated from him. She considered herself a good mother, assuming all responsibilities of care. She reported receiving family support, especially from her partner and his relatives. She thought that the arrival of her son had changed her life for the better. It was noteworthy that, in the adherence questionnaire, she had scored low on therapeutic adherence (57 points).

Anna reported that her partner felt jealous of the child after birth because she cared for the baby "24 hours a day." Nevertheless, she thought her romantic relationship was very good. The relationship with her parents had improved with motherhood because Anna understood that prior difficulties had been due to her immaturity. Her MOS-SSS showed an intermediate level of support, particularly reflected in high scores in affectionate (93 points) and tangible (65 points) supports, and

low scores in emotional (30 points) and informational (30 points) support. The main source of support mentioned by Anna was her mother, followed by her mother's partner and her partner.

Case 2 – Mary

Experience of pregnancy. Mary reported not having planned her pregnancy, which occurred after not using contraception. She discovered she was pregnant at 4 months but did not start prenatal care until 6 months, due to constant residence changes arising from her partner's participation in a government employment program. She was monitored infrequently during her pregnancy because of difficulties scheduling appointments. At birth, she needed a Cesarean section, which was a problem for her for aesthetic reasons: "I started to cry, 'This is it, now they will ruin my belly!' [laughs]." Even so, she assessed her antenatal and perinatal care positively.

Mary's HIV diagnosis was accompanied by severe anemia: "At the time I did not bother, I did not give much attention. I know several people that have it and it is nothing." Subsequently, her concerns related to HIV increased, especially for her daughter: "I was in panic, thinking that she would be born with problems because of that." In fact, Mary showed intense concern and guilt about her late initiation of ART (at 8 months of pregnancy): "She was born from me and I just started the treatment with 8 months!" Mary received ART monitoring, which she assessed in a positive way. However, the distance between her residence and the health institution limited her follow-up treatment. Five months after delivery, she had interrupted ART.

Mary revealed her diagnosis to family members who, according to her, emphasized the negative aspects of the infection, which led to some conflicts between her mother and the baby's father and between her partner's family members and Mary. Her partner refused to take ART and Mary seemed to deny the infection, not recognizing its impact on her life: "Sometimes I even forget that I have [HIV]."

Experience of motherhood. At 6 months postpartum, Mary thought her daughter's development was adequate, and she had received positive feedback from health professionals. She did not reveal concerns about not breastfeeding, believing it to be the best choice: "I thought it was better not to breastfeed her than trying to do it and harm her." She sometimes used cross-breastfeeding but did not approve of it: "I do not like that my neighbor gives milk to her [laughs]. ... I know that she

[neighbor] does not have AIDS, but how am I supposed to know if she will not get another disease?"

The difficulties of entering and remaining in health care during pregnancy persisted after the birth of her daughter. Her questionnaire responses indicated a low (54 points) adherence score. Mary stated that her health condition did not hinder her motherhood activities. Mary claimed she often played with her daughter and had a difficult time leaving the baby under the care of others: "I think no one will ever take care as a mother." She considered herself to be a good mother; she assumed all care for the baby. She mentioned maturity and happiness about being a mother, as well as family support (mother, brother, and partner's grandmother) for both taking ART and for caring for the baby.

Regarding her partner, Mary said he provided support before his detention, which occurred when the baby was 5 months old. Because of that, difficulties had arisen in the relationship. As her partner was a source of support and income, his imprisonment led to the interruption of Mary's treatment. Conversely, Mary reported improvement in family relationships after the birth of her daughter, especially greater care from her mother: "She [Mary's mother] says 'Now you have a daughter to raise!' So she is always overseeing me, you know, always checking what I am doing [laughs]." In fact, in MOS-SSS a high level of social support predominated, including tangible (75 points), affectionate (100 points), and informational (80 points) support, and positive social interaction (100 points). Mary had an intermediate score (40 points) only in the dimension of emotional support. Regarding sources of support, Mary repeatedly cited her mother and partner, as well as her own infant daughter and her partner's grandmother.

Case 3 – Lisa

Experience of pregnancy. Lisa said she did not want the pregnancy, which led her to deny it and not to seek prenatal care: "Even with the growing belly, not menstruating, for not wanting to be pregnant, I pretended that I did not believe." Thus, she only found out her HIV status at birth, which caused anxiety and guilt related to the possibility of infection in the baby: "I was worried, because I do not know if I have reached the 4 hours I had to stay in the serum [ART during labor]." The absence of prenatal care also resulted in the lack of preparation for childbirth. Lisa reported a lack of support from health services, which were accessed only at the beginning of labor:

My mother took me to the health unit There, they said rude things to me because I had no

prenatal care [Then in the hospital] she [the physician] asked for the documents and I said I did not have them, then she was rude to me, you know, it is normal.

In addition, Lisa reported a negative attitude when a health professional revealed her HIV diagnosis, which negatively impacted her childbirth experience:

The physician came, impolite ... "Lady, did you know that your daughter has HIV?" ... So I said, "I am of legal age, I have the right to speak!" Then my mother started not feeling well and had to be assisted right there in the hospital, so I was alone when I gave birth ... If my mother was with me, it would have been better.

Apart from this, Lisa thought that the care she received in the hospital was good. After her initial shock, Lisa's mother reacted well to the news, but, for Lisa, the HIV diagnosis was "a shock" and caused feelings of guilt and fear of death: "I kept thinking and now, how is it going to be? My son, I, maybe my husband, who did not know that I had I was thinking like, I am going to die!" However, Lisa's follow-up care served to allay her concerns about the infection and to reassure her.

Lisa reported having used psychoactive substances at the beginning of her pregnancy. She was able to stop using without professional help, because of input from her partner and thoughts of the baby, and achieved stability:

He asked me to stop. So I would not lose everything I had achieved, new clothes, new house, and also knowing that it was an innocent child that had nothing to do with it, right? Then I stopped, until today.

Lisa did not know the paternity of her child because of her drug use and sex work, but her current partner, who was an important source of support, assumed paternity. Lisa reported several stressful life events prior to pregnancy, such as sexual abuse perpetrated by her father, family relationship difficulties, relationship difficulties with other romantic partners, and frequent psychiatric hospitalizations and sheltering, marked by repeated escapes and periods of living on the street.

Experience of motherhood. When her baby was 4 months old, Lisa said that her son was developing properly in his physical growth and reported an absence of serious health problems. She did not report concerns about breastfeeding because she thought that the infection had not affected her relationship with the baby. She did recognize the impact of HIV in her life (e.g., need for constant use

of condoms during sexual intercourse). However, she relied on denial to cope with the diagnosis: "For me, I have nothing. It is normal for me, it is as if I had nothing." Despite this, her responses on the adherence questionnaire indicated high adherence to treatment (66 points).

Lisa said she played regularly with the baby and considered herself to be a good mother. She assumed most of the caregiving tasks, sharing them with her partner, with whom she had a good relationship. However, she discussed difficulties assuming the maternal role: "I care and everything, but sometimes ... It seems that I did not realize yet. I cannot believe that I am [a] mother yet!" Motherhood proved to be an important event, however, with positive consequences in her life: "I settled down, I stopped using drugs, I became more responsible, I became more adult"

Lisa mentioned that her family relationships had improved after pregnancy:

After my mother saw that I was pregnant ... she called me all the time, wanted to go to my house all the time, wanted me at her house all the time ... It was what I always wanted, right?

Lisa had family support for childcare and medical treatment. In fact, in the MOS-SSS, Lisa showed a high level of social support, ranging from 70 (informational support) to 100 (affectionate support and positive social interaction). The dimension with the lowest score was emotional support (60 points). She thought of her mother as the main source of support, but her infant son, her partner, and her sister were also mentioned as sources of support.

Discussion

The aim of our study was to identify protective factors for the experience of pregnancy and motherhood in adolescent women living with HIV, seeking to find their differences and similarities. From the case analyses, similar and different protective factors were identified, as depicted in Tables 2 and 3. Similar factors were identified for at least two participants, and different factors appeared for one participant.

Desire for Pregnancy

The first protective factor was the desire for pregnancy. Anna was the only participant with this desire. Lisa denied her pregnancy until childbirth and Mary did not say anything about it. Anna's desire for pregnancy seemed to positively influence her feelings about pregnancy and the baby and, equally, her health care decisions (e.g., early onset of prenatal care). Other studies have identified a

desire to become pregnant among young women, in the absence of life projects related to study and work. Thus, pregnancy and the creation of a household can be a viable project for entry into adulthood (Speizer & White, 2008). However, the fact that young people may desire pregnancy does not remove the importance of contraception policies and conception planning, which, in fact, did not occur with these participants.

Only Anna began prenatal care early in the pregnancy, in line with health services recommendations (at least 6 doctor's appointments, beginning within 120 days of conception; Brazil MOH, 2006). Levandowski, Silva, and Wendland (2011) highlighted the importance of prenatal care for Brazilian pregnant adolescents as a strategy to guarantee maternal and child health, further heightened by HIV infection. Mary started prenatal care at 6 months of pregnancy, and Lisa did not have any prenatal care.

HIV Diagnosis

Although the diagnosis of HIV in pregnancy, per se, creates a risk for physical and psychosocial wellbeing, we found that knowledge of the HIV diagnosis was also protective, given contextual factors and the time of life in which our participants were diagnosed (pregnancy and adolescence). For Anna, motherhood helped her cope with the infection; she thought that discovering she had HIV at another time of life would have been more painful, so motherhood mitigated the impact of HIV. Therefore, motherhood might acquire a central role for adolescents and serve as a protective factor (Barr, Simons, Simons, Gibbons, & Gerrard, 2013; Sandelowski & Barroso, 2003a). Moreover, even Anna's self-care regarding HIV was related to motherhood because she felt that taking care of herself was a part of taking care of her son. She reported concerns about MTCT, which has also been observed in adult pregnant women. According to Moura and Praça (2006), this concern, associated with the expectation of delivering a healthy child, lead to the realization of the need for prenatal care and ART. This concern can thus be seen as protective as it increases the odds of HIV-infected mothers' engagement in care and treatment. However, Anna had trouble adhering to ART after the baby was born, which was similar to findings for adult mothers (Bardeguet et al., 2008; Ickovics et al., 2002). Therefore, although protective factors were present, they did not guarantee adherence.

In the context of HIV, individuals use various strategies to adapt to adverse and potentially stressful situations. These coping strategies can be focused on emotion or on the problem itself (Lazarus & Folkman, 1984). Although we did not investigate this issue directly, Anna seemed to adopt a problem-focused strategy, recognizing the impact of HIV in her life (inability to breastfeed and the need for condom use and periodic examinations), understanding it as a worrying condition that demanded care. However, Anna did not make use of her potential resources to cope with stress, in this case, an increase in the social support network through disclosure of the diagnosis to her family. Although Lisa recognized some impact of HIV in her life (such as the need for condom use), she appeared to use predominantly an emotion-focused strategy, claiming to have a life equal to that of someone who did not live with HIV. One thing that may have contributed to her acceptance of condom use was the fact that Lisa and her partner were serodiscordant. Condom use may have been seen more as a protection for her partner than acknowledgment of behavior changes required by HIV.

In contrast to Anna, Mary and Lisa revealed their diagnoses to their families, which could have increased support and be considered a protective factor. It is, however, important to assess the response of significant others to the disclosure and to observe their ability to provide support. In Lisa's case, the reaction was positive, generating acceptance and concern for her health care, which made her feel supported in taking ART. On the other hand, Mary reported a negative initial reaction from her family, which included blaming her and stigmatizing her for HIV infection (related to inevitable death). After the initial response, however, Mary felt supported. Our participants more often cited their mothers and partners as sources of support, reinforcing previous findings about adolescent pregnancy (Araújo-Pedrosa, Pires, Carvalho, Canavarro, & Dattilio, 2011), and HIV (Pereira & Canavarro, 2009). Fathers and friends, on the other hand, were not mentioned. It is interesting to note that health professionals can also provide significant support for HIV-infected people (Reilly & Woo, 2004), which was observed for our three participants, especially regarding care at birth and in specialized services. It is also important to note, however, that significant others may differ in their abilities to provide each type of support. Thus, it would be relevant to examine if families, friends, and health professionals contributed to greater perceived support, in its different functional dimensions, and a better experience of motherhood.

Health Care

Women's adherence to treatment is related to the quality of health care provided (Brazil MOH, 2000). Hence, the positive appraisal by Anna and Mary about their health care could be regarded as protective, as it increased the likelihood of adherence to prenatal and postpartum follow-up, which is crucial to maternal and neonatal health. As pointed out by Marramon, Levandowski, and Wendland (2011), it would be important to know what the participants understand about quality of care and what parameters they use to assess services and health professionals. It was noteworthy that only one of our participants (Lisa) reported having been a victim of discrimination or prejudice by these professionals, only partially supporting studies that have suggested discrimination as a common experience in the context of HIV (Gonçalves & Piccinini, 2007; Parker & Aggleton, 2003). However, we cannot forget that our research was conducted at health institutions. Although the participants were informed that our study was an independent activity, the researchers may have been seen as health care team members, which may have biased their answers.

Preparation of pregnant women for childbirth is of major importance in high quality prenatal care; it integrates the movement for the humanization of labor and childbirth, which emerged in the late 1980s in Brazil (Tornquist, 2002). Anna reported good preparation for giving birth, through professional monitoring and participation in a pregnant women's group, and did not express concerns related to delivery. This reinforced the concept that the health team can play an important role in support of pregnant women.

Extending the analysis to public health policies, it is also possible to think of the structure of specialized services for people living with HIV available in the public network as a protective factor in the experience of adolescent pregnancy and motherhood, particularly related to socioeconomic status. In fact, our participants received professional supervision from the time of their HIV diagnoses. However, the public health structure in Brazil still has limitations regarding the range of HIV testing coverage provided during pregnancy.

Motherhood

Motherhood was an important protective factor for the three adolescents in our study, for the life plans they adopted after delivery, and for the new social role of being a mother and an adult in

their families (Pantoja, 2003). In fact, all of our participants reported feelings of happiness, maturity, and greater responsibility from the experience. Responsibility toward the child may have been reinforced by the support offered by the family (Bunting & McAuley, 2004). However, even with the support of family, the participants considered themselves the main caregivers of their babies. Mary, for instance, revealed a fear of leaving her daughter to the care of others. The willingness to care can be considered protective as it increases self-esteem, facilitates bonding with the baby, and reinforces the sense of self-efficacy and competence, which are relevant strengths for coping with adversity. In fact, all of the adolescents said they were good mothers, stating that HIV did not negatively affect the experience of motherhood. Many studies have considered parenting in adolescence as a problem. As Heilborn (2006) stated, "this episode is *a priori* framed in generalizing concepts and, above all, dramatized in advance" (p. 32). Therefore, it is not about denying the implications of pregnancy for the development of these mothers but rather about broadening understanding, which can be experienced in a variety of ways, including as a normal, positive, and protective experience (Barr et al., 2013; Sanders, 2008). In the case of these participants, the discovery of HIV during pregnancy made it possible to start ART.

Mother-Child Relationship

All of our participants reported playing regularly with their children, which revealed a bond to the baby and satisfaction with the maternal role. Play is a facilitator of mother-infant interactions (Ginsburg, 2007) that promotes the child's emotional and cognitive development and also contributes to maternal mental health. In fact, the adolescents in our study did not work or go to school, spending much of their time with their babies. However, our findings contradict those found in a literature review by Levandowski, Piccinini, and Lopes (2008) and in a survey performed by Kingston, Heaman, Fell, and Chalmers (2012), which showed greater difficulty for adolescents in interactions with their babies for individual, family, and/or social reasons.

Another aspect of motherhood mentioned by our participants, albeit with differences, was not being able to breastfeed. Lisa and Mary did not report concerns, showing indifference. For Mary, not breastfeeding was a way to care for the baby and prevent MTCT. Lisa associated her indifference to the fact of not having desired the child, representing a difficulty in connecting with the baby, rather

than a concern about the baby's wellbeing. Thus, although indifference can lead to avoidance of breastfeeding (protective for the baby), it can also lead to difficult bonding (a risk for both).

All participants felt that their babies were developing properly, despite not breastfeeding. Their narratives focused on good health, physical growth, and information from professionals who cared for the children. In a Brazilian study, Gonçalves and Piccinini (2008) showed that the desire to prevent HIV in the child helped mothers overcome their own beliefs about not breastfeeding. For example, participants in that study thought that babies fed with infant formula would not be well nourished and would have developmental problems. The desire to keep the baby uninfected seemed to assure our young mothers that not breastfeeding was safer for the infant, increasing their confidence in alternative feeding and decreasing the risks of providing breast milk. Accordingly, our participants did not breastfeed their infants and demonstrated the desire to maintain alternate feeding practices.

Family Relationships

Our three participants noted improvements in family relationships after the babies' births. Anna credited such changes to personal maturity, while Lisa and Mary reported that their own mothers showed greater concern for them and/or the babies' wellbeing. Improvements in these relationships reflected changes in family dynamics resulting from the pregnancy. According to Bunting and McAuley (2004), the family tends to worry about the adolescent's wellbeing, mobilizing them to provide care and offer support. In turn, social acceptance reflects a healthy family interaction, which promotes a sense of personal fulfillment for the adolescent mother. This dynamic is a protective factor because it strengthens both the relationship of the adolescent to her support network (family) and positive feelings about motherhood. However, it is noteworthy that, even in a family relationship perceived as close, Anna did not feel confident enough to disclose her HIV diagnosis.

Regarding romantic relationships, Anna assessed her relationship positively, by the absence of breakups and the couple's ability to communicate. Lisa also assessed her relationship positively, based on the fact that her partner took the child as his own. Both reported that support received from their partners was characteristic of a good marital relationship. This positive perception acted as a protective factor for the young mothers because it positively influenced the experience of motherhood and enabled the development of a family.

Limitations

It is worth noting that some issues were listed as protective for some participants but not for others, depending on the experience of each adolescent. In these situations, the information of the interview, as a whole, was considered for assessment, which reinforced the need for a procedural and contextualized approach to identifying and understanding protective factors, as well as risk factors. For instance, several events occurred over time in the lives of the participants. Their allocation as "pregnancy" or "motherhood" was made simply as a criterion for organizing the identification and presentation of protective factors. In this perspective, a posteriori analysis of pregnancy and motherhood can be regarded as a limitation of the study because an overall process approach was not adopted. Thus, we collected retrospective data about the pregnancy and prospective data about motherhood, which sometimes did not allow the short-term consequences to adequately confirm our classification as a protective factor.

It is also noteworthy that the timing in which data were collected (4 to 6 months after birth) was not a period of intense and disorganizing experiences for the mothers as would have been experienced in the immediate postpartum period. This may have influenced the experiences of motherhood and, consequently, answers given by the adolescents during the interviews. Also, one cannot forget that our participants, compared to those who refused to participate or who dropped out, may have presented unique characteristics that would not have been replicated in a larger sample. Finally, the participants in our study were at their late teens (17 to 19 years of age), which may also have influenced their experiences, compared to younger adolescents. It is, therefore, necessary to be cautious in generalizing these findings to other contexts.

Conclusions

An important issue was present in the experiences of all of our participants: the central role of motherhood in their lives. Considering this, HIV infection seemed to lose importance in the assessment of our participants, particularly given their positive maternal experiences. Although it seems to be a protective finding, we considered motherhood to be a tenuous line between risk and protection. Motherhood could be used to face and overcome the trauma of HIV infection (which would be protective) but motherhood could also be used to deny HIV and not adhere to ART (which

would be a risk). Advances in ART have made HIV an increasingly chronic and manageable illness, but the characteristics of the developmental phase of these adolescents contributed to the tenuous line between risk and protection. Comparative studies with adult HIV-infected mothers could help to clarify this issue and to determine any real differences. Motherhood, even during adolescence and with concomitant HIV infection, seems to act as a motivating factor for health and should, therefore, be used by health professionals to enhance infant care as well as women's self-care. This finding has been documented extensively for adult HIV-infected women (Sandelowski & Barroso, 2003a, 2003b).

Overall, these data showed the need for new research with pregnant HIV-infected adolescents, seeking to deepen understandings about inclusion in health services and perceptions about pre- and post-HIV test counseling, family relationships, maternal roles, and coping strategies. In addition, longitudinal studies could help determine a process and contextual approach for analyzing protective factors, increasing understanding and clarifying life outcomes for young women and their babies.

In summary, we have provided clarification on some questions that permeate the experience of pregnancy and motherhood in young women living with HIV. We have started to identify relevant issues to increase knowledge about this group and to contribute to the scientific literature, which is limited on this topic.

Key Considerations

- In the care of HIV-infected adolescent mothers, it is important to notice not only the risk factors but also especially the protective factors surrounding the experience of pregnancy and motherhood in order to promote resilience and provide a more positive experience of these events.
- Health professionals should regard the experience of pregnancy and motherhood as a window of opportunity to implement adaptive health strategies (e.g., increasing adherence to antiretroviral treatment).
- Bonding with the baby can be an important motivator for the promotion of self-care in young mothers.

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Table 1.

Participants' Socio-demographic and HIV-Related Data

Characteristics	Anna	Mary	Lisa
Age (years)	19	17	18
Baby's age (months)	4	6	4
Last year of education completed	8	9	6
Last job	Saleswoman/ window dresser	Administrative assistant	Sex worker
Marital status	Single (with boyfriend)	Single (with boyfriend)	Single (with partner)
Socioeconomic status ^a	Middle-low	Low	Low
Support received	Money, clothes, food, and medicines	Food	Money, clothes, food, and medicines
Gestational time when diagnosed with HIV (months)	2	7	9
Mode of transmission	Unsafe sex	Unsafe sex	Unknown
Interruption of ART after delivery	No	Yes ^b	No
Living with baby's father	Yes	Yes	Baby's father unknown
Baby's father age (years)	22	17	49 (current partner)

Note. ART = antiretroviral therapy. ^aSocioeconomic status was obtained from the integration of the following information: education, neighborhood of residence, present occupation, last occupation, and forms of aid received. Moreover, the location in which the participants were selected (public health service) constituted, by itself, an indicator of socioeconomic status, considering the current context of Brazil. ^b Interruption was due to the adolescent's personal decision.

Table 2

Similar Protective Factors Identified in Participants

Pregnancy	Motherhood
<ul style="list-style-type: none"> • Professional support after HIV diagnosis • Positive evaluation of health care • HIV diagnosis revealed to family members (Mary and Lisa) • Recognition of HIV impact on own life (Anna and Mary) 	<ul style="list-style-type: none"> • Family support for ART (Mary and Lisa) • Positive relationship with partner (Anna and Lisa) • Family support for baby care • Assuming the baby's care • Understanding that HIV did not negatively affect motherhood • Assessing baby's development positively • Improving family relationships after baby's birth • Playing regularly with baby • Considering herself as a good mother • Being happy, mature, and responsible about motherhood

Note. ART = antiretroviral therapy

Table 3

Different Protective Factors Identified in Participants

Participant	Pregnancy	Motherhood
Anna	<ul style="list-style-type: none"> • Desired pregnancy • Early prenatal care • Guidelines and information about delivery • HIV diagnosis during pregnancy • Concerned about MTCT • Coping strategy focused on dealing with HIV • Partner support to health treatment 	
Mary		<ul style="list-style-type: none"> • Concerns about leaving her child in others' care • Absence of concerns about not breastfeeding
Lisa	<ul style="list-style-type: none"> • Positive family reaction to HIV diagnosis disclosure • Partner assumed paternal responsibilities 	

Note. MTCT = maternal-to-child transmission.