

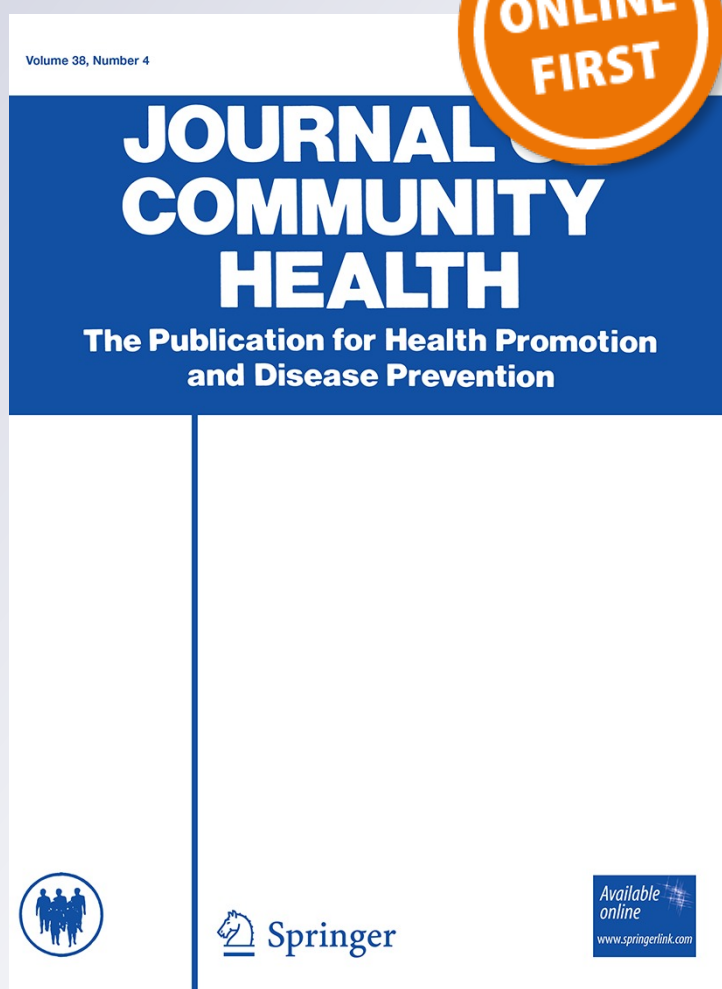
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Factors Associated with HIV Status Disclosure to One's Steady Sexual Partner in PLHIV in Morocco

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Abstract The objective of the present study was to determine the factors independently associated with disclosure of seropositivity to one's steady sexual partner in people living with HIV (PLHIV) who are recipients of services provided by Association de Lutte Contre le Sida, a Moroccan community-based organization (CBO) working on AIDS response. Between May and October 2011, 300 PLHIV were interviewed about their sociodemographic and economic characteristics, their sexual life and disclosure of their serostatus to their friends, family and to their steady sexual partner. A weighted logistic regression was used to study factors associated with serostatus disclosure to one's steady sexual partner. We restricted the analysis to people who declared they had a steady sexual partner ($n = 124$). Median age was 36 years old, 56 % were men and 62 % declared that they had disclosed their serostatus

to their steady sexual partner. The following factors were independently associated with disclosure: living with one's steady sexual partner [OR 95 % CI: 9.85 (2.86–33.98)], having a higher living-standard index [2.06 (1.14–3.72)], regularly discussing HIV with friends [6.54 (1.07–39.77)] and CBO members [4.44 (1.27–15.53)], and having a higher social exclusion score [1.24 (1.07–1.44)]. Unemployment (as opposed to being a housewife) was negatively associated with disclosure [0.12 (0.02–0.87)]. Despite the potential positive effects for the prevention of HIV transmission and for adherence to HIV treatment, many PLHIV had not disclosed their serostatus to their steady sexual partner. Some factors shown here to be significantly associated with such disclosure will help in the development of future support interventions.

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Keywords HIV · Disclosure · Steady sexual partner · Morocco · Stigmatization · Living-standard index

Introduction

In 2011, there were an estimated 29,000 people living with HIV (PLHIV) in Morocco and HIV prevalence in the general population was 0.14 % [27]. This low reported prevalence, associated with taboos about sexuality which characterize the Moroccan socio-cultural context [19], makes it difficult for PLHIV to disclose their seropositivity, especially to their sexual partner. Indeed, these difficulties may deprive PLHIV of support from their family, their partners and the community. Despite the provision of comprehensive prevention and care programs by the public sector and community-based organizations, to date no formal national service framework exists to support PLHIV who wish to disclose their seropositivity. Moreover, no study of factors associated with serostatus disclosure to one's sexual partner has ever been performed in Morocco.

The identification of such factors constitutes a research priority, given the characteristics of the epidemic in Morocco where unprotected sexual contact represents the primary mode of HIV transmission: 87 % of HIV/AIDS cases observed between January 2008 and September 2012 [27]. Sixty-seven percent of new infections occur in most-at-risk populations (sex workers, men who have sex with men and injecting drug users) and their steady sexual partner. Casual heterosexual relations in other groups of the Moroccan population account for only 7 % of infections. Seventy-one percent of infected women are infected by their husbands [28]. In this context, intimacy and trust between partners, the fact of living together and the desire to start a family are all factors which may impact the decision to disclose one's serostatus or not to a steady sexual partner.

For newly diagnosed PLHIV, the choice to disclose or not to a steady sexual partner or to close family members and friends constitutes a dilemma [48]. Some PLHIV decide to disclose to one or several of these people while others prefer to keep their serostatus confidential and do not talk about it. HIV can interfere in many of the individual's personal relationships, be they intimate, sexual, familial or professional. Revealing one's seropositivity or keeping it confidential is therefore an important and difficult decision which has numerous implications not only for the lives of PLHIV but also for public health [16, 40, 41, 52].

Several studies have documented the positive effects of disclosure. In some situations, it helps PLHIV to manage the stress and depression which may arise from the discovery of their seropositivity [6, 32]. Disclosure constitutes the first step to obtaining social support [54] and may provide the individual the opportunity to access additional

resources and psychological support from his/her family, friends and sexual partner [25]. These benefits are seen above all when the individual's family and friends react positively to the news of his/her seropositivity. In contrast, other studies have highlighted the negative aspects of disclosure. Family rejection of the PLHIV may follow disclosure and is sometimes associated with moral and/or physical violence [31]. To protect themselves from the risk of stigmatization, PLHIV may decide to keep their serostatus confidential even if this decision limits the possibility of benefiting from emotional and social support [14]. A consequence of this decision not to disclose is that some PLHIV make an extra effort to manage the risk of HIV transmission. Moreover, non-disclosure has been shown to be associated with ART treatment adherence problems [35, 46, 47]. Strict adherence is required for HIV treatments to be effective [46]. Disclosure and its positive and/or negative consequences are therefore important determinants of a PLHIV's quality of life [4, 38].

HIV infection affects all aspects of life for PLHIV and can have repercussions on intimate and sexual relationships [36]. Sexual desire and performance can often be negatively impacted by the effects of the HIV infection itself and of HIV treatments [2, 3, 12, 39]. HIV disclosure to sexual partner(s) is a critical issue [11]. Unprotected sexual behaviors expose both partners to the risk of sexually-transmittable infections (STI) including different HIV strains. Disclosure of one's seropositivity may facilitate negotiation about safer sex practices [21, 32, 48] and can encourage earlier diagnosis of new infections [51]. It may also reduce the risk of seroconversion of a seronegative partner [43, 48], reduce the number of unwanted pregnancies and limit the risk of vertical HIV transmission [1, 23].

The objective of this study was to explore the factors independently associated with serostatus disclosure to one's steady sexual partner in a population of PLHIV in contact with Association de Lutte Contre le Sida (ALCS), a community-based organization working in AIDS response in Morocco.

Materials and Methods

This study is a sub-study of the community-based cross-sectional research "PARTAGES". Developed and implemented by a mixed (researchers/CBO members) and international research consortium from seven countries (Canada, the Democratic Republic of the Congo, Ecuador, France, Mali, Morocco and Romania), its objective was to investigate the factors associated with HIV disclosure in contexts where data are rare.

In Morocco, three hundred PLHIV were recruited, either in one of the CBO's centers in five different cities (Agadir,

Casablanca, Fes, Marrakech, Rabat) or in a HIV care hospital facility. The inclusion criteria were as follows: being HIV positive, being 18 years old and over, and being aware of one's seropositivity for more than 6 months. A 125-item questionnaire divided into 8 sections (socioeconomic data, history with the disease, HIV disclosure and reaction of others to disclosure, self-efficacy, intimate and social lives, sexuality, quality of life and contact with CBOs) was administered to participants after information about the study was provided and written, informed consent to participate was obtained. The questionnaire was administered by trained members of the community-based organization. Data was kept strictly confidential. Collected data was anonymous and the spaces where the interviews took place guaranteed confidentiality. The Biomedical Research Ethics Committee at the Faculty of Medicine and Pharmacy in Casablanca approved the study in November 2010.

The various scales included in items in the questionnaire were validated and score indices designed [37]. Three scales—either dichotomous or polytomous in type—were used in the analysis. The internal coherence of the scales was evaluated with the aid of ordinal alphas, as recommended by Gadermann et al. [13]. The first scale reflected how often the participant had the opportunity to discuss his/her concerns about HIV with a care provider and the score ranged from 0 (no discussion) to 4 (often discussed this issue). The ordinal alpha was estimated at 0.80. The second scale (entitled the “living-standard index”) corresponded to the quantity of services and assets the individual had at his/her disposal (housing with electricity, refrigerator, television, air-conditioning and/or heating and a private car). The corresponding score varied from 0 (very little property) to 5 (a great deal of property). The estimated ordinal alpha was estimated at 0.94. The third scale represented the individual's perceived level of social exclusion because of his/her seropositivity. This score varied from 0 (low stigma) to 12 (high stigma). The ordinal alpha was estimated at 0.97.

Furthermore, a quantitative variable was employed which represented the size of the individual's social support network (i.e. circle of family and friends). This support was measured by the degree to which he/she could talk about personal issues and ask for help. The corresponding score, calculated from answers to two questions (focusing on the size of both family and friend support networks) ranged from 0 (no one) to 6 (more than 11 persons). This variable may be considered as an indicator of the extent of discussion about HIV with members of the individual's social support network.

Statistical Analysis

The sample was weighted using data on age, gender and study site, provided by the ALCS cohort statistics.

Potential explanatory variables were screened for inclusion in the model by testing each independently for a significant association with voluntary disclosure of serostatus (VDS) with one's steady sexual partner, using weighted univariate logistic regression. Variables that achieved a liberal significance level of $p \leq 0.20$ in the univariate analysis were included in the multivariate model. The final multivariate model was built using a backward elimination approach based on the log-likelihood ratio test ($p \leq 0.05$). A receiver operating characteristic (ROC) curve was used to assess the logistic regression model's ability to accurately distinguish individuals who had disclosed from all the others. The area under the ROC curve (AUC) provided a measure of discrimination [17]. Data management and statistical analyses were performed using SPSS v20.0¹.

Results

Of the 300 participants, we restricted the analysis to those who both declared they had a steady sexual partner and answered the question on voluntary HIV disclosure ($n = 124$). Characteristics of the 124 study participants are described in Table 1.

The study sample was composed of 41 % women, the median age of the study sample was 36 years and 65 % declared having formal or informal employment. The median score for living-standard index was 3 (max 5) and the median number of people living in a household was four. More than three out of four (77 %) participants lived with their spouse or steady sexual partner and 69 % declared having children. Eighteen people (15 %) declared at least one voluntary HIV test while one in ten reported infection by blood transmission. Participants were aware of their seropositivity and received ARV treatment for a median of 3 and 2 years, respectively, and 10 % declared the use of traditional or alternative medicines in addition to or instead of ARV to treat the disease. A median value of 2 (max 6) was observed for the size of the individual's social support network, 17 participants (14 %) declared that they regularly discussed their concerns about their infection with their friends and 84 % declared that they regularly discussed problems linked to their seropositivity with CBO members. Participants were in contact with ALCS for a median of 2 years and almost 90 % felt they needed to speak to HIV care providers. Furthermore, the median score for discussion with care providers was 3 (max 4). More than 90 % of the study sample considered that disclosing one's HIV status is risky and 3 in 10 believed that it had been an error on their behalf to do so. The median

¹ IBM Corp. Released 2011. IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp.

Table 1 Main characteristics of participants (n = 124)

Variables	Modality	n (%) or median [IQR]
Sex	Man	69 (56)
	Woman	51 (41)
	Transgender	4 (3)
Age (years)		36 [30–43]
Activity	Housewife	18 (14)
	Formal employment/ Informal employment	80 (65)
	Unemployed and other	26 (21)
Living-standard index		3 [3–3]
Number of persons in household		4 [3–5]
Living with spouse or steady sexual partner	No	28 (23)
	Yes	95 (77)
Having children	No	38 (31)
	Yes	85 (69)
HIV testing: voluntary	No	105 (85)
	Yes	18 (15)
Mode of contamination	Sexual transmission + Unknown	111 (90)
	Blood transmission	13 (10)
Number of years since diagnosis		3 [2–5]
Number of years on ART		2 [1–4]
Other means for treating HIV	No	109 (88)
	Yes	13 (10)
Size of social support network		2 [1–5]
Regular discussion about life with HIV: with friends	No	107 (86)
	Yes	17 (14)
Regular discussion about life with HIV: with CBO members	No	19 (15)
	Yes	104 (84)
Number of years in contact with ALCS		2 [1–5]
Need to discuss HIV with healthcare providers	No	14 (11)
	Yes	110 (89)
Discussion index score with healthcare providers		3 [2–4]
Believed that disclosure is risky	No	11 (9)
	Yes	112 (91)
Believed that disclosure was a mistake	No	87 (70)
	Yes	37 (30)
Stigmatization scale: degree of social exclusion		1 [0–5]
Having voluntarily disclosed serostatus with steady sexual partner	No	46 (38)
	Yes	77 (62)

IQR interquartile range

score for the stigmatization scale measuring the degree of perceived social exclusion was 1 (max 12).

A total of 77 participants (62 %) declared having voluntarily disclosed their serostatus with their steady sexual partner.

Univariate analysis (Table 2) revealed several variables positively associated (odds ratio > 1) with VDS to one's steady sexual with a *p* value inferior to 0.20: a higher living-standard index score, having a higher number of persons in household, living with spouse or steady sexual partner, declaring to have been infected through blood and utilizing other means to treat HIV were positively associated with VDS. Similarly, regularly sharing one's HIV-related concerns with friends and/or with CBO members, feeling the need to speak with care providers, having a higher discussion index score with care providers and a higher social exclusion index score were all associated with a higher probability of VDS. On the contrary, having formal or informal employment or being unemployed (as opposed to being a housewife), having gone for voluntary testing and having a larger size of social support were all negatively associated with voluntary HIV disclosure to one's steady sexual partner.

Multivariate analysis (Table 2) showed a positive, independent and significant (*p* value < 0.05) association of the following factors with disclosure to one's steady sexual partner: having a higher living-standard index score [OR 95 % CI: 2.06 (1.14–3.72)], living with spouse or the steady sexual partner [9.85 (2.86–33.98)], regularly discussing one's HIV-related concerns with one's friends [6.54 (1.07–39.77)] and with the CBO's members [4.44 (1.27–15.53)], and a higher perceived social exclusion score [1.24 (1.07–1.44)] were all positively associated with a higher probability of VDS. On the contrary, being unemployed [0.12 (0.02–0.87)] (as opposed to being a housewife) was negatively associated with VDS.

We also evaluated the discriminatory performance of the final statistical model. The AUC was 0.80 which indicates an excellent degree of discrimination according to Hosmer and Lemeshow [17].

Discussion

Our study is the first to specifically focus on the question of serostatus disclosure in Morocco. Among the 124 respondents who declared having a steady sexual partner, more than a third (38 %) had not disclosed their serostatus to him/her. In the article by El Fane et al. [11] on the quality of sexual life in PLHIV in Morocco, the proportion of respondents who had not disclosed their serostatus with their sexual partner was relatively smaller (30 %) than that

Table 2 Univariate and multivariate logistic modeling of factors associated with HIV status disclosure to one's steady sexual partner

Explanatory variables	Modality	Univariate analysis		Multivariate analysis	
		OR [95 %CI]	p value	aOR [95 %CI]	p value
Sex	Man	1			
	Woman	0.69 [0.33–1.46]	0.33		
	Transgender	1.02 [0.12–8.97]	0.98		
Age		1 [0.95–1.05]	1		
Activity	Housewife	1		1	
	Formal employment/ Informal employment	0.24 [0.05–1.09]	0.06	0.31 [0.05–1.90]	0.21
	Unemployed and other	0.10 [0.02–0.49]	0.005	0.12 [0.02–0.87]	0.04
Living-standard index		1.71 [1.06–2.76]	0.03	2.06 [1.14–3.72]	0.02
Number of persons in household		1.22 [1.03–1.44]	0.02		
Living with spouse or steady sexual partner	No	1		1	
	Yes	4.35 [1.79–10.58]	0.001	9.85 [2.86–33.98]	<10 ⁻³
Having children	No	1			
	Yes	1.45 [0.67–3.17]	0.35		
HIV testing: voluntary	No	1			
	Yes	0.27 [0.09–0.76]	0.01		
Mode of contamination	Sexual transmission + Unknown	1			
	Blood transmission	3.73 [0.77–18.17]	0.10		
Number of years since diagnosis		1.08 [0.94–1.23]	0.27		
Number of years on ART		1.08 [0.94–1.25]	0.27		
Other means for treating HIV	No	1			
	Yes	4.93 [0.88–27.50]	0.07		
Size of social support network		0.85 [0.71–1.02]	0.08		
Regular discussion about life with HIV: with friends	No	1		1	
	Yes	4.13 [1.01–16.81]	0.05	6.54 [1.07–39.77]	0.04
Regular discussion about life with HIV: with CBO members	No	1		1	
	Yes	2.12 [0.79–5.71]	0.14	4.44 [1.27–15.53]	0.02
Number of years in contact with ALCS		1.03 [0.90–1.18]	0.67		
Need to discuss HIV with healthcare providers	No	1			
	Yes	2.99 [0.94–9.53]	0.06		
Discussion index score with healthcare providers		1.23 [0.96–1.59]	0.10		
Believed that disclosure is risky	No	1			
	Yes	0.98 [0.27–3.51]	0.98		
Believed that disclosure was a mistake	No	1			
	Yes	1.55 [0.68–3.53]	0.30		
Stigmatization scale: degree of social exclusion		1.10 [0.98–1.23]	0.09	1.24 [1.07–1.44]	0.004

OR odds ratio, aOR adjusted odds ratio, CI confidence interval

in our study. Nevertheless, El Fane et al.'s study was carried out in hospitals in individuals whose state of health had probably deteriorated and who would have found it much harder to keep their seropositivity hidden (48 % of respondents in that survey were at stage C). Golub et al. [15] identified the fact of having a serious illness linked to HIV as a factor associated with serostatus disclosure. In a study on disclosure carried out in 2008 in Ethiopia, Deribe et al. [9] showed that disease progression was significantly associated with disclosure to one's sexual partner.

Data on disclosure to one's steady sexual partner is almost inexistent in the other MENA countries. Studies from Sub-Saharan Africa highlight great differences in disclosure rates from one country to the next: from less than 20 % in a group of pregnant women in Tanzania [20] and Burkina Faso [30] to over 90 % in South Africa and Ethiopia [10, 53]. This could suggest that the context influences disclosure. However, these variations could perhaps be explained by the different methods and sampling procedures employed.

We found no association between age and HIV disclosure or between gender and HIV disclosure. Similarly, a recent study in Senegal showed that disclosure to one's partner is independent of both of these factors [5]. A different study in Uganda found that age was significantly associated, although this was not true for gender [32].

In our study, regularly discussing one's HIV-related concerns with friends and members of a community-based organization appeared to be significantly associated with disclosure of one's serostatus to a steady sexual partner. Interestingly, discussions with doctors, other care providers and family were not associated with this decision. PLHIV who regularly talked about HIV with their friends were more likely to have disclosed their serostatus to their steady sexual partner than those who rarely or never discussed it with friends. Disclosure to friends strengthens social support and it would appear that friends are less likely to cut off ties after disclosure [24]. Our study also showed a significant positive association between regularly discussing HIV with CBO members and disclosure to one's steady sexual partner. In Burkina Faso, frequenting support groups is positively associated with disclosure [22]. The psychological support for PLHIV which the CBO provides (in the form of individual psychosocial support, discussion groups and/or informal discussions which encourage, among other things, secondary prevention) appears to facilitate the decision to disclose one's serostatus to one's steady sexual partner. Nevertheless, we found in our study that the number of years an individual was in contact with the CBO was not significantly associated with such disclosure. Suzan-Monti et al. [49] highlight that disclosure to a steady sexual partner is a positive individual factor of future disclosure to close family and friends. One explanation the

authors propose for this link is that although an individual who discloses to his/her steady sexual partner runs the risk of rejection, such disclosure can also encourage support in this intimate relationship, preparing the ground for future disclosure to family members and friends. Family and friends' readiness to listen and to support the individual plays a role, whether they are aware of it or not, in helping the individual to disclose to a greater number of people. This readiness to listen and to support helps the PLHIV to acquire and strengthen communication abilities when talking about his/her seropositivity. A study in Uganda showed that having the communication skills needed to disclose seropositivity was positively associated with disclosure to steady sexual partners [18].

Nonetheless, results in the literature regarding this link between social support and disclosure differ, particularly but not exclusively because of the differences in how social support is "measured" [45]. The fact is that it is difficult to interpret the association between disclosure and support: disclosure may indeed lead to supplementary support but it is also true that pre-existing support may facilitate the decision to disclose.

Multivariate analysis revealed a positive association between the perceived social exclusion as measured by stigmatization scale and disclosure. The higher the score—that is to say the more PLHIV felt socially excluded—the more likely it was that they had disclosed their serostatus to their steady sexual partner. The likelihood that someone had not disclosed to their partner was therefore much higher for people with low stigmatization scores. The data collected did not enable us to discover whether the direction of this association between disclosure and stigmatization is one-way or not. It would appear however that these are two processes which continuously feed each other, as opposed to being occasional singular events. The index which we used measured the perceived social stigmatization the individual felt from anyone, yet the analysis focused only on disclosure to one's steady sexual partner. It is possible that our result indicates that perceived stigmatization was a consequence of having disclosed to one's partner and that those who had not disclosed felt less stigmatized. Stigmatization may be associated with the person to whom one discloses, but also to the circumstances of the announcement. Several studies have shown that disclosure runs the potential risk of discrimination and violence at the hands of one's partner [4, 26, 31]. The anticipation of such risks may discourage people from disclosing. In a study by Osinde et al. [32], participants declared that their choice not to disclose was mainly linked to their fear of stigmatization (their partner's reaction, physical violence, the accusation of infidelity). In our study, 91 % of the PLHIV interviewed felt that disclosing serostatus is "risky". Accordingly, for some PLHIV,

non-disclosure may act as a form of “protection” from being stigmatized or reproached by others. Nevertheless this anticipated risk of stigmatization might be overestimated with respect to what happens in reality. In Deribe et al.’s study [9] in Ethiopia, although 54 % of those who had not disclosed their positive serostatus to their steady sexual partner cited fear of a negative reaction as a justification for not disclosing, only 5 % of those who had disclosed reported a negative reaction from their partner. In a Tanzanian study, 46 % of female participants living with HIV/AIDS who had not disclosed their serostatus cited the fear of divorce as the reason for this choice. However, 92 % of those women who had disclosed declared that their relationship continued after disclosure [20]. It is of course possible that only those women living with HIV who were confident that their relationship was solid enough decided to share their serostatus with their partner, while those who did not feel so confident did not do so. This result also suggests that women overestimate the risk of a negative reaction by their partner [24]. Among the 51 women in our study, 19 (37 %) declared that it had been an error on their behalf to disclose their seropositivity.

Two factors suggest the importance of socioeconomic individual context in the disclosure process. First, multivariate statistical analysis revealed a positive association between the living-standard index and serostatus disclosure to one’s steady sexual partner. This living-standard index, which reflects the number of household services and assets in the individual’s home and the household’s material assets, provides important information about the economic and financial situation of the respondents. Those with a low living-standard index score were less likely to have disclosed their serostatus to their steady sexual partner than those with a high score. This may be linked to the fact that people with a lower score suffered greater economic hardship, and therefore were more vulnerable to situations of exclusion, especially from housing, if they lived in the home of close family members or friends. In South Africa, Simbayi et al. [42] showed that disclosure was associated with losing one’s job and one’s home on account of being seropositive. In the Moroccan context where family solidarity very often compensates for the lack of state aid, the risk of homelessness and/or losing personal property as a result of disclosure may appear particularly real to PLHIV and consequently may dissuade them from disclosing. Second, activity was also significantly associated with serostatus disclosure to one’s partner. Interestingly, respondents who declared that they were housewives were more likely to have disclosed their serostatus than unemployed persons. It is probable that a housewife’s socioeconomic situation was somehow more stable than that of an unemployed person. Moreover, because of the positive association between living with one’s partner and disclosure to

that person, housewives who live with their husband are more likely to share their status with their partner. In Kouanda et al.’s study [22] in Burkina Faso, it was shown that PLHIV who lived in a couple disclosed more than those who lived alone. Other authors have highlighted the same result [9, 44]. It is possible that cohabitation makes it more difficult to dissimulate taking ARV treatment and/or follow-up appointments at hospital or visits to the community-based organization providing support and care.

Study Limitations

Our study has some limitations. Studies using convenience samples provide limited representativity. Accordingly, the study respondents cannot be seen to be representative of all Moroccans living with HIV/AIDS. Those in contact with the community-based organization ALCS may have disclosure rates which are different from those having no contact with the organization. A study performed in South Africa showed that PLHIV who had been provided with follow-up care at home were more likely to have disclosed their serostatus than those who had not benefited from such support [29]. That said, it was not our study’s objective to represent all PLHIV in Morocco. The protocol specified that the study sample would only be representative of the PLHIV within the CBO cohort. Furthermore, concerning the representativity of the sample population with respect to fellow recipients of ALCS support services, it is possible that those who agreed to participate had different characteristics from those who did not agree. In order to limit this bias and ensure the best possible representativity, data were weighted according to the demographic characteristics of the members of the community-based organization ALCS. These study limitations do not however affect the quality and value of the results of this study. First, we presented original data on a topic that had been under-researched in Morocco. Second, the international aspect of the research project also ensures that these results can be used in the future to investigate similarities in HIV disclosure trends, correlates and experiences in a variety of contexts. Finally, the study is an excellent example of successful community-based research where researchers’ and community-based actors’ know-how combine to provide a more-detailed investigation and understanding of disclosure from the psycho-social perspective [7].

Conclusion

Our study highlighted quite a high rate of non-disclosure to steady sexual partners. This result is a matter of concern both for public health objectives focusing on reducing new infections and for the quality of life of PLHIV.

The demographics of respondents did not appear to influence their decision to disclose or not. This is the reason why tailored disclosure support interventions, especially regarding disclosure to steady sexual partners, should be targeted at all PLHIV in contact with community-based associations. A similar suggestion has recently been forwarded by Dempsey et al. [8] in a study on adolescents.

On the contrary, the individuals' socioeconomic contexts appeared to greatly influence the decision to disclose. It is therefore very important that comprehensive care programs be implemented to reduce PLHIV socio-economic vulnerability, through orientation towards organizations which focus on development, literacy and professional training.

The association we highlighted between PLHIV discussing their problems with CBO members and higher levels of disclosure underlines the legitimacy and the relevance of CBO psychosocial interventions for PLHIV in Morocco. Greater training of CBO members in the main issues surrounding disclosure is required, in order to help them both integrate this question more fully into focus groups and/or in individual interviews, and to help them support PLHIV when the latter desire to disclose their seropositivity. Activities aimed at reinforcing individuals' self-efficacy and communication skills to help them both disclose and to cope with potentially difficult situations, especially stigmatization, should be included in HIV care programs. Interventions have already been developed and tested with success in Canada and Mali [33, 34].

Advocacy campaigns could lead to a change in the mindset of the general population which in turn would limit stigmatization and facilitate the advent of environments which are socially favorable to serostatus disclosure [50].

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