Segregation of Sexual Networks and Racially-Based Prevention Practices among sub-Saharan African Migrants Living in France

Elise Marsicano and Nathalie Lydié

Abstract

Migrants from sub-Saharan Africa bear a disproportionate burden of HIV infection in Europe with an increasing proportion of them acquiring HIV after migration. This transformation in the epidemic pattern has raised concerns about the sexual mixing and preventive behaviours of migrants. This communication aims at exploring how racial boundaries shape sexual networks and structure prevention practices among migrants from sub-Saharan Africa. Analyses are based on a French survey carried out among 1,874 individuals born in sub-Saharan Africa, aged 18-49 and living in Paris and its surroundings. Our results provide evidence of the existence of African sexual networks, over and beyond those of national origin. The intra-African segregation of these sexual networks leads to sexual contacts between migrants from low and high HIV prevalence countries, which probably contribute to the development of the epidemic amongst these migrants. Moreover, racially-based perceptions of HIV-related risk seem to produce a specific attitude toward prevention practices as shown by higher rates of condom use among migrant women from sub-Saharan Africa with a partner born outside sub-Saharan Africa. As a consequence, community-based approaches to HIV prevention should take into account the identification of migrants from sub-Saharan Africa as a racial minority and not only focus on national borders.

Keywords: HIV/AIDS, African migrants, sex networks, France

Introduction

Progressive transformations in the patterning of the HIV epidemic in Europe have raised concerns about sexual mixing and preventive behaviours of migrants in receiving countries (Fenton et al. 2005; Sadler et al. 2007; van Veen et al. 2009; van Veen et al. 2011). Migrants, especially from sub-Saharan Africa, continue to bear a disproportionate burden of HIV infections in many European countries (Del Amo et al. 2009; Le Vu et al. 2010; Onusida 2009). Although the majority were infected in their country of origin due to the endemic HIV situation in this region of Africa (Onusida 2009), virological data demonstrates that an increasing proportion of infections occurs after migration (Burns et al. 2009; Cazein et al. 2010; Lot et al. 2006).

How these populations are classified by HIV surveillance systems and within the scientific literature is crucial to monitor and understand the dynamic of the HIV epidemic in Europe (Del Amo, Broring, et Fenton 2003; Del Amo et al. 2004; Kesby et al. 2003). The definitions and classifications of migrants define the boundaries between groups who represent a risk for HIV transmission and groups who are at risk of HIV infection. These processes of classification also influence the theoretical framework and hypotheses used to analyse sexual transmission of HIV in Europe. In the scientific literature, the terms "migrants" and "ethnic minority" are increasingly used interchangeably both in particular surveys (Xiridou et al. 2010) and in European reports (Del Amo et al. 2009).

As shown by Proctor and colleagues (Proctor, Krumeich, et Meershoek 2011), the use of the term "ethnic minority" instead of "migrants" tends to conceal the risk factor linked to migration. The term "ethnic minority" includes individuals born in Europe whose parents came from countries with a generalised HIV epidemic; thus assuming the proximity of individuals born in Europe with HIV endemic countries is questionable. For instance, the large disparity in HIV infection rates among Africans in the United-Kingdom and those in sub-Saharan Africa is partly due to inaccurate statistics which include individuals born in the UK (Kesby et al. 2003).

Moreover, classifications terms of "ethnic minority" may emphasise an ethnicised risk construction, regardless of the individual's personal migration history (Proctor, Krumeich, et Meershoek 2011). This ethnicised risk construction leads researchers to focus on individual sexual practices - and "high-risk sexual behaviours" - while downplaying about structural processes which

place individuals at increased risk of contracting HIV, and in particular issues of discrimination (Aspinall 2008; Oppenheimer 2001). This is particularly true in the scientific literature on sexual mixing in the European context. Proctor and colleagues described the consequences for methodological choices, findings and research programmes of misusing "ethnic minority" terminology.

An ethnicised risk construction may encourage, during analysis, interpretations constructed in terms of cultural differences. These cultural differences relate mainly to gender relations within the relationship (Gras et al. 2001; Kesby et al. 2003; Prost et al. 2008). Furthermore, a culturalist approach to gender often prevails in these studies as gender asymmetry concerns above all minority groups - being a migrant or member of an ethnic minority. Conceptualisations of both ethnicity and gender are informed by assumptions of culturally problematic behaviours.

From the perspective of HIV prevention, we postulate that the HIV endemic situation in sub-Saharan Africa requires a focus on people who actually migrated from these countries. In addition, we argue that the racial discrimination experienced by sub-Saharan African migrants – along with gender relations - shape sexual networks, inform processes of risk construction and structure prevention practices. This paper analyses data from a large-scale quantitative survey of 1,874 sub-Saharan African migrants living in Paris and its surroundings.

Conceptual framework

Migrants from sub-Saharan Africa experience racial discrimination in accessing housing and employment, resulting in residential segregation in economically deprived areas and professional segmentation in devalued industries (Cole 2007; Meurs, Pailhé, et Simon 2006; Pan Ké Shon 2009; Safi 2009). Given that places where people live and work are indeed places where they tend to form relationships with potential partners (Bozon et Heran 2006; Laumann et al. 1994), these processes of segregation and segmentation may produce segregated sexual networks, beyond national origin. Furthermore, racial discrimination contributes to the creation of African social networks no longer based on birth country (Ndiaye 2008; Quiminal et Timera 2002). These networks, which offer spaces of solidarity and sociability, can also become areas for meeting partners.

The organisation and segmentation of sexual networks are gender-specific. The conceptualisation of gender should however be extended to wider social interactions (encompassing migration and living conditions, for example) and should not be reduced to gender roles within the relationship (Kergoat 2001). Gender plays a key role in the construction of migratory pathways as female migration is often linked to family reunification (Catarino et Morokvasic 2005; Dahiden et al. 2007; Pourette 2008). Gender also affects living conditions, given that migrant women are generally less well integrated into the labour market than migrant men. Moreover, social control over the sexuality of women probably leads to stronger restrictions on their partner choice.

With respect to prevention practices, we use a constructivist approach of HIV risk perception, which takes into account the respective influence of social distance between partners, commitment in the relationship and gender asymmetry (Bajos 1997). Preventive practices do not have the same meaning nor the same legitimacy in ongoing relationships as in more casual ones (Kalk et al. 2001; Santelli et al. 1996) and the asymmetry of male and female positioning within the regular couple poses a barrier to condom use (DiClemente et al. 2002; Santelli et al. 1996). Building on previous research, which found that condom use shows a positive correlation with social distance between partners (Bajos 1997; Gras et al. 1999), social distance will be approached in this study according to both migration criteria (same country of birth) and minority status (being part of a sub-Saharan African minority).

Overall, our intention is to highlight how the conceptualisation of migrants from sub-Saharan Africa as a racial minority can help in describing and understanding the dynamics of HIV among these populations in Europe. We aim to assess whether risk construction and prevention practices are structured by racial boundaries between groups.

Data and methods

A cross-sectional study of knowledge, attitudes, beliefs and practices was conducted among 1, 874 individuals who were born in a sub-Saharan African country and had migrated to France. The purpose of the survey was to assess the level of knowledge of HIV/AIDS among sub-Saharan African migrants, their attitudes and opinions towards HIV/AIDS and condoms, their perceptions of risk and

disease, and their risk adaptation practices (Lydié 2007). The survey was conducted in Paris and its surroundings, which is the metropolitan area most affected by HIV (Cazein et al. 2009) and the region with the largest population of migrants from sub-Saharan Africa living in France (Insee 2005). Survey individuals were interviewed face-to-face between June and July 2005. A pilot survey was conducted in May 2005 with 65 individuals to test the acceptability and understanding of the questionnaire as well as the feasibility of the survey.

Random recruitment with gender and ethnically matched interviewers

The towns in Paris and its surroundings with over 5,000 inhabitants were divided into three strata based on the percentage of sub-Saharan African migrants in their population (>6%, 4-6%, 2-4%). In order to ensure a good dispersion of survey points, 50 towns were selected at random and in proportion to their relative importance of the stratum.

The survey was conducted in public settings, within fixed survey sites (urban transport stations, markets, post offices, shopping centres) selected for their capacity to attract different populations. These are the places where sub-Saharan African migrants are as likely to be found as other populations. Previous studies have shown that community areas such as churches are not always the most appropriate recruitment sites (McLean et Campbell 2003). Indeed, recruitment in community settings in which the proportion of migrant populations is particularly high would probably have over-represented people who are highly integrated into migrant communities. In order to take into account the different density of the African immigrant population in the selected municipalities, the time spent at each site was inversely proportional to its density (i.e. 2 hours if > 6%; 3 hours if 4-6%; 4 hours if 2-4%).

Data were collected by 42 professional gender-matched interviewers from sub-Saharan Africa. African interviewers were chosen to facilitate recruitment, which took place in the street. Research has shown that the use of interviewers of the same origin as the respondents is associated with increased participation (Elam et Fenton 2003; McLean et Campbell 2003). However, this advantage can become an issue during questionnaire administration: interviewers may face difficulties in criticising their own cultural norms and in admitting to deviant values or behaviour. There may also be concerns regarding

anonymity and confidentiality if interviewers meet someone from within their own community (Elam et Fenton 2003). To reduce these risks, the interviewers did not conduct the interviews in their own town of residence. In addition, the interviewers were all professionals who had received a two-day training course provided by the survey coordinators.

At the end of the questionnaire, the interviewer gave the respondent a phone card and a leaflet on HIV prevention. For detailed questions related to HIV, the person was referred to a telephone help line. Interviewers were instructed to identify all contacts that did not lead to questionnaire completion. Of the 14,164 people approached, 9,901 (69.9%) were eligible (being born in a sub-Saharan African country, living in Ile-de-France and being aged 18-49). Of these, 2,079 (21%) agreed to participate in the survey. The overwhelming majority of people refused before being told the subject of the survey and argued they did not have time to participate. 138 questionnaires were not completely administered; in addition, 67 questionnaires were excluded because they were improperly completed. The final survey sample included 973 women and 901 men born in sub-Saharan Africa aged 18-49, and living in Ile-de-France.

An over-representation of young, highly educated and recently arrived migrants

While for reasons of feasibility, surveys among migrants tend to favour convenience sampling (Gras et al. 1999; Sadler et al. 2006; van Veen et al. 2009), this survey has relied on random recruitment (Lydié, Guilbert, et Sliman 2008; Lydié 2007). However, due to the overall low response rate, the sample may seem closer to a convenience sample.

Young, highly educated, and recently arrived migrants were over-represented in the final sample, for both men and women compared to the 2004-2005 census (Lydié 2007). Given that people from sub-Saharan Africa who have arrived since the early 1980s tend to be younger and better educated than people from earlier migrations (Barou 2002), the survey is likely to be more representative of recent migration. The breakdown by country of birth was nevertheless not significantly different from that was observed in the census. Respondents came from the six leading countries of emigration to France, namely Cameroon, Côte d'Ivoire, Congo, Mali, the Democratic Republic of Congo, and

Senegal, in similar proportions to the census. Nearly 60% came from West Africa, due to the impact of France's colonial past in the organisation of current migration.

Moreover, the questionnaire was conducted in French, which probably led to those with a good command of French being over-represented. Considering that the ability to speak French is more common among people who are in an extra-African relationship, sexual networks are probably more segregated in reality than in the sample. The survey was conducted in Paris and its surroundings only, thus the results cannot be generalised to the entire sub-Saharan African population living in France, even if this region comprises 60% of all sub-Saharan African migrants living in France. However, this recruitment method enabled us to identify and interview undocumented migrants; their proportion in the sample (11%) being equivalent to that estimated among the population of sub-Saharan Africans living in France (Lessault et Beauchemin 2009). The fact that undocumented immigrants not only agreed to take part in the survey but also agreed to reveal their immigration status suggests that the procedures regarding confidentiality and anonymity were understood.

Questionnaire and statistical analyses

The questionnaire documents collected information on sexual biography with a focus on first sexual intercourse and sexual activity over the past 12 months (number of partners, characteristics of the partner and of the relationship, preventive and contraceptive practices). The low rate of non-response (less than 1%), even for questions regarded as sensitive (religion, residency status, sexual violence, etc.), suggests a reasonably robust dataset.

Because of our interest in analysing heterosexual networks and preventive practices over the last twelve months, those who had never had sex were excluded (men: N=98; women: N=182), as were those who had not had sex during the last twelve months (N=93 and N=98) and those who reported having a same-sex partner (N=3 and N=4). For some individuals, defining the geographical origin of their partner was not possible (N=87 and N=110). However, their socio-demographic characteristics (age, education level, marital status) were not significantly different from the others. The analyses presented here are based on a final sample size of 601 women and 626 men involved in heterosexual relationships.

To describe patterns of sexual mixing, we identified three distinct situations: partner born in the same sub-Saharan African country as the respondent (no mixing); partner born in a different sub-Saharan African country (intra-African mixing), and partner born outside sub-Saharan Africa (extra-African mixing; usually the partner was born in France). This allows us to consider both migration criteria (being with a partner from the same country or not) and minority status (being with a partner from sub-Saharan Africa or not).

We first compared characteristics of migration and of economic and sociocultural integration according to mixing *versus* no-mixing. Then we compared characteristics of migration and of economic and sociocultural integration among those in mixed relationships, intra-African mixing *versus* extra-African mixing.

Finally, we analysed perceptions of HIV risk and condom use according to partner's origin, considering both migration criteria and minority status. Analyses on individual perception of risk were based on a four-point scale question about fear of HIV ("none" or "very little", versus "quite a lot" and "a lot"). Then, we analysed condom use with current partner using both bivariate and multivariate analyses. Logistic regression allowed us to determine the influence of partner's origin on consistent condom use controlling for socio-demographic characteristics, age gap between partners, numbers of partners and relationships characteristics (cohabitation status and duration of the relationship). These analyses were stratified by sex in order to underline the gendered nature of sexual mixing and prevention practices.

All analyses were conducted using the Stata statistical software package (version 11.0, StataCorp L.P., College Station, Tex.).

Results

Sample characteristics

Migrants who participated in the survey represent a young and highly-educated, yet economically disadvantaged, population (Table 1). A significant proportion of respondents were unemployed (20% of women and 23% of men) and reported financial difficulties (23% of women and 24% of men). Moreover, migratory paths as well as characteristics of sexual relationships were gender-specific.

First, migration and living conditions in France were strongly linked to sex: arriving at a later age, men had often migrated to find work while women were more likely to have migrated for family reunification (Table 1). Although men were better educated and more often employed than women, they were also more likely to have a precarious residence permit and be living in precarious housing conditions compared to women (22% *vs.* 13%; p<0.001). Second, the sexual relationships of women were more likely to be based on conjugality and monogamy than among men (Table 1). Women cohabited with their partner more often than men (51% *vs.* 40%; p<0.001), and reported fewer partners than men during the last twelve months (Table 1). In addition, a significant proportion of men reported having had concurrent sexual partnerships (25% *vs.* 7% of women; p<0.001).

Table 1 - Socio-migratory characteristics and sexual activity, by gender

	Women		Men		p-value
N	601		626		
Socio-demographic and migratory characteristics					
Average age at survey [95% CI]	30.6	[30.0; 31.2]	32.3	[31.7; 32.9]	0.000
% with post-secondary level of education	48.7		58.2		0.001
Average age at migration to France [95% CI]	20.1	[19.4; 20.8]	22.4	[21.8; 23.1]	0.000
% who migrated to find work	10.0		28.0		0,000
% who migrated for family reunification	44.5		16.7		0,001
% coming from West Africa	57.4		59.0		0.584
% with precarious residency*	11.5		16.1		0.018
% in employment	46.0		57.0		0.000
% unemployed	20.0		23.0		0.245
% cohabiting with their partner	51.1		40.1		0.000
Characteristics of sexual activity					
Average number of partners during the past 12 months [95% CI]	1.3	[1.2; 1.3]	1.9	[1.7; 2.0]	0.000
% having had two partners and more during the past12 months	12.8		36.0		0.000
Among those in a cohabiting relationship	2.0		24.7		0.000
Among those in a non-cohabiting relationship	22.1		40.9		0.000

*precarious residency = awaiting or lack of residence permit or short-stay residence permit
Sample: people who have had sex with someone of the opposite sex in the last twelve months, N=1227
Example: 16.1% of men *vs.* 11.5% of women have a precarious residence permit
Source: KABP-migrants survey, Inpes, 2005

Patterns of sexual mixing

Migration leads to the opening up of sexual networks, as confirmed by the importance of sexual mixing, in the form of relations with partners born in different countries (47% of women and 50% of women; NS). Findings concerning sexual mixing should however be qualified, as a high proportion of respondents had a partner from a different sub-Saharan African country (19% of men and 20% of women).

The conditions of migration play an important role in the construction of sexual and conjugal trajectories: both women and men who were with a partner born in a different country came to France at a younger age than those whose partner was from the same country (Table 2). Whereas we would have expected convergence in the experience of women and men who migrated during childhood, gender differences arise with women being much more likely than men to be with a partner from their own country (40 % *versus* 8 %). Furthermore, respondents in mixed relationships are more likely to originate from Eastern and Southern Africa than migrants in non-mixed relationships (women: 8% *versus.* 3%; p<0, 05; men: 10% *versus.* 4%; p<0, 01).

Comparisons between intra- and extra-African mixing highlighted gender differences. Migration conditions did not influence patterns of mixing for women whereas they did so for men: men whose partner was born in a different sub-Saharan African country migrated later than men whose partner was not born in a sub-Saharan African country (Table 2). No difference was noticed according to region of birth of women or men.

Indicators of economic status showed little variation when comparing mixed and non-mixed relationships (Table 2). In particular, no difference in financial situation was observed. Indicators of economic position varied significantly between migrants practising intra and extra-African mixing. Among respondents with a partner born in a different sub-Saharan African country, women were more often students whereas men were more often unemployed. The financial situation of men and women whose partner was born in another sub-Saharan African country seemed to be slightly more difficult compared to those whose partner was not born in a sub-Saharan African country (Table 2).

Characteristics of sociocultural integration were strongly related to whether individuals were with a partner from the same country or not: among individuals whose partner was born in a different

country, French-speaking at home was more frequent, whereas the regular practice of religion was less frequent (Table 2). Finally, as observed when comparing non-mixed and mixed relationships, characteristics of sociocultural integration play an important role when comparing intra- and extra-African mixing. Both women and men were less likely to speak French at home and more likely to report practising their religion regularly when their partner was born in a different sub-Saharan African country compared with those whose partner was not born in a sub-Saharan African country (Table 2).

Table 2 – Characteristics of migratory paths and sociocultural integration according to the origin of the partner, by gender

	Women					**Men**				
	Non-mixed Born in the same country	**Mixed** Born in a different country	*Intra-African*	*Extra-African*	**All**	**Non-mixed** Born in the same country	**Mixed** Born in a different country	*Intra-African*	*Extra-African*	**All**
Numbers	320	281	*120*	*161*	601	310	316	*118*	*198*	626
Age at migration to France										
0-9 years old	8.5	14.7	*10.9*	*17.5*	68	2.0	15.0	*6.8*	*19.8*	53
10-14 years old	9.4	13.6	*16.0*	*11.9*	68	5.6	7.6	*6.8*	*8.1*	41
15-19 years old	17.9	27.6	*29.4*	*26.3*	134	18.3	16.6	*12.8*	*18.8*	108
20-49 years old	64.2	44.1	*43.7*	*44.4*	327	74.2	60.8	*73.5*	*53.3*	418
p-value	0,000 (p1)*		*0,376 (p2)**			0.000		*0.002*		
Region of birth										
West Africa	58.8	55.9	*54.2*	*57.1*	345	60.7	57.3	*60.2*	*55.6*	369
Central Africa	38.4	36.7	*41.7*	*32.9*	226	35.5	32.6	*29.7*	*34.3*	213
Eastern and Southern Africa	2.8	7.5	*4.2*	*9.9*	30	3.9	10.1	*10.2*	*10.1*	44
p-value	0.032		*0.100*			0.009		*0.680*		
Professional status										
Active	47.5	45.0	*44.2*	*45.6*	278	61.4	53.8	*55.9*	*52.5*	359
Unemployed	19.4	21.4	*18.3*	*23.8*	122	24.4	21.8	*28.0*	*18.2*	144
Student	16.3	26.4	*32.5*	*21.9*	126	11.4	23.1	*14.4*	*28.3*	108
Not working	16.9	7.1	*5.0*	*8.8*	74	2.9	1.3	*1.7*	*1.0*	13
p-value	0.000		*0.000*			0.001		*0.020*		
Financial situation										
OK	48,3	53,7	*47,5*	*58,4*	279	44,2	46,3	*39,3*	*50,5*	305
Difficult	51,7	46,6	*52,5*	*41,6*	337	55,8	53,7	*60,7*	*49,5*	295
p-value	0,182		*0,070*			0,600		*0,055*		
Predominant language spoken at home										
French	39.1	62.0	*53.0*	*68.9*	282	49.3	63.4	*57.5*	*67.0*	338
Other languages	60.9	38.0	*47.0*	*31.1*	283	50.7	36.6	*42.5*	*33.0*	262
p-value	0.000		*0.008*			0.001		*0.098*		
Religious practice										
Regular	55.5	34.9	*45.8*	*26.7*	275	57.8	43.3	*58.6*	*34.2*	313
Not regular	44.5	65.1	*54.2*	*73.3*	325	42.2	56.7	*41.4*	*65.8*	307
p-value	0.000		*0.001*			0.000		*0.000*		

* p1 compares mixed relationships and non-mixed relationships while *p2* compares intra-African mixing and extra-African mixing
Sample: people who have had sex with someone of the opposite sex in the last twelve months, N=1227
Example:
Source: KABP-migrants survey, Inpes, 2005

Relationship status plays an important role in patterns of sexual mixing. Being with a partner from the same country was more frequent among cohabiting relationships than among non-cohabiting relationships for women (63% *vs.* 43%; p<0.001) as well as for men (58% *vs.* 44%; p<0.001). Whereas patterns of sexual mixing were similar for women and men in cohabiting relationships, important gender differences arise in non-cohabiting relationships where women are more likely than

men to have a partner from a different sub-Saharan country (28% *vs.* 18%; $p<0.05$). Among non-cohabiting relationships, sexual mixing was gender specific, mostly intra-African among women and extra-African among men.

Finally, age gaps between partners suggest a significant gender asymmetry. Men were on average five years older than their female partners; and 20% of women and 13% of men were in relationships in which the man was at least 10 years older than the woman. Moreover, age gaps were greater among men whose partner was from sub-Saharan Africa - whether or not they were from the same country - compared to those whose partner is not a native of sub-Saharan Africa (results not shown). No variation in age gaps based on the geographical origin of the partner was observed for women.

Risk perception and condom use

Most respondents reported a strong fear of HIV/AIDS (80%), whether or not they lived with their partner or have had other partners during the last twelve months (results not shown). However, women whose partner was from sub-Saharan Africa - whether or not from the same country - more often reported a fear of HIV than those whose partner was from outside sub-Saharan Africa (83% *vs.* 72%; $p<0.01$).

Table 3 - Characteristics associated with condom use by sex

	Women				Men			
	N	%	OR	95% CI	N	%	OR	95% CI
% condom use in the past 12 months	519	27,8			488	33,0		
Partner's origin								
Same country	282	20,6	1		258	29,1	1	
Different sub-Saharan African country	94	33,0	1,16	[0,66; 2,06]	89	41,6	1,53	[0,90; 2,60]
Outside sub-Saharan Africa	143	38,5	1,88*	[1,16; 3,05]	141	34,8	0,83	[0,51; 1,35]
Age gaps with partner								
Man is 0-4 years older	215	33,5	1		283	39,6	1	
Man is at least 5 years older	304	23,7	1,36	[0,89; 2,08]	205	23,9	1,59	[0,99; 2,53]
Duration of relationship								
0-2 years	353	19,3	1		299	23,4	1	
3 years and over	166	45,8	0,61*	[0,37; 0,99]	189	48,2	0,47**	[0,30;0,75]
Cohabitation with partner								
No	228	42,1	1		247	42,9	1	
Yes	291	16,5	0,48**	[0,29; 0,77]	241	22,8	0,56*	[0,35; 0,88]

Controlled for age, education level and number of partners during the past 12 months
* : p<0.05; **: p<0.01; *** : p<0.001
Sample: people who have had sex with someone of the opposite sex in the past twelve months, N=1227
Example: Being with a partner who is not from sub-Saharan Africa is associated with a greater probability of having used a condom among women (OR = 1,88[1.16; 3.05].
Source: KABP-migrants survey, Inpes, 2005

Our data highlight gender-based processes regarding condom use (Table 3). In univariate analysis, condom use among women was associated with partner characteristics and relationship characteristics. In multivariate analysis, being with a partner who was not from sub-Saharan Africa was associated with a greater probability of having used a condom during the past 12 months, whereas being in a long-lasting relationship or cohabiting with her partner was associated with a lower probability of having used a condom (Table 3). Men's situations attest to specific issues, with relationship characteristics playing a predominant role. Multivariate analysis shows that factors associated with lower condom use are the longer duration of the relationship and cohabitation with the partner (Table 3). The strong influence of relationship characteristics could help explain the lack of any association between partner's origin and condom use in multivariate analysis for men.

Discussion

Migrants from over there and racial minorities here

Studies on sexual networks among migrants tend to have focused on sexual contact between migrants from countries with generalised HIV epidemics and native populations (Gras et al. 2001;

Gras et al. 1999; van Veen et al. 2009; Wiggers et al. 2003; Xiridou et al. 2010) ; the crucial question here being the potential epidemic spread from these groups to the so-called general population, with little attention being paid to sexual mixing between migrants from different sub-Saharan African countries. Our analyses provide evidence of the existence of African sexual networks, over and beyond national origin. A poor command of the French language and regular religious practice can stand in the way of pairing up with people who are not from sub-Saharan Africa. However, beyond cultural affinities, intra-African segregation of sexual networks is also encouraged by the living conditions of sub-Saharan African migrants in France. Our results show that members of these populations are economically disadvantaged despite their high-levels of education. Moreover, economic status seems to be less favourable among men and women whose partner was born in sub-Saharan Africa, whether from the same or a different country, as compared to migrants whose partner was not born in sub-Saharan Africa. Our study sample size in small, however, and thus these results should be interpreted with caution. Longitudinal data and information concerning the direct experience of discrimination would have been necessary to explore more fully the link between living conditions and patterns of sexual mixing.

Sexual mixing in our study is gender-specific as shown by the importance of intra-African mixing for women compared to extra-African mixing for men. On the one hand, women's sexual networks may be less diversified, especially because of their poorer access to the job market (Beauchemin, Hamel, et Simon 2010; Insee 2005). On the other hand, this could be an indication of the gendered nature of sexual norms and of the greater social control over women's sexuality. As the definition of boundaries between groups is based in particular on women's sexuality, women are probably subjected to a stronger constraint in their "choice" of a sub-Saharan African partner. This may be an indicator of the evolution of boundaries between groups, no longer based on the country of birth but rather based on the fact of being part of this sub-Saharan African minority.

This intra-African mixing probably leads to sexual contacts between migrants coming from low HIV prevalence and high-prevalence countries and is likely to contribute to the transmission of HIV amongst migrants from sub-Saharan Africa in Europeans countries. The way in which racial boundaries shape social networks and produce racially-based sexual networks obviously depends on

the national context. First, due to colonial history, migrants from Eastern and Southern Africa - where prevalence of HIV is very high - represent a minor migratory influx in France and thus, are predominantly in mixed relationships. Leaving aside considerations of "choice" or "preference", belonging to a smaller migration flow increases the propensity for being in a mixed couple (Safi 2008). The situation is slightly different from what is observed in the United-Kingdom where African migrants come predominantly from Eastern and Southern Africa. Second, State policies towards minorities lead to variations in immigrant assimilation processes. In countries where migrant communities are structured and recognised by national institutions, social networks – and consequently sexual networks – are probably more embedded in these communities. This may be an explanation for the relatively low intra-African mixing found in the Netherlands (Gras et al. 1999).

While patterns of sexual mixing are embedded in national contexts, preventives practices appear to be structured by the relational context. Commitment and trust are inconsistent with condom use during the past 12 months, as shown by the lower condom use rates among respondents who cohabit with their partner or who are in long-lasting relationships. These processes are in any case specific to migrants from sub-Saharan Africa. As underlined by Kesby and colleagues, behaviours and attitudes of these migrants towards sexual prevention are similar to those observed in the general population (Kesby et al. 2003). Of note, even in formal relationships, condom use is high among the respondents; although the pressure for condom use is usually at the start of a relationship or in casual relationships (Bajos 1997). This may be due to do the fear of HIV in migrants from sub-Saharan Africa, which is three times higher than in the population at large (Beltzer et al. 2005). Though high, condom use is not necessarily sufficient to control the transmission of HIV in migrants from sub-Saharan Africa as most people have sub-Saharan African partners.

The risk of acquiring HIV may be increased by differences in prevention practices according to partner's origin. In line with other studies (Gras et al. 2001; Gras et al. 1999; Wiggers et al. 2003), our analyses show that a partner's origin is associated with specific prevention practices. However, different processes are at work depending on which boundaries are involved, namely national borders or racial boundaries. Among men, lower condom use with sexual partners from the same country appears to be partly related to the characteristics of these relationships. These men do in fact have

larger age gaps with their partner and are in longer-lasting relationships than those whose partner is from a different country, and these are the same characteristics that mainly affect condom use.

Other interpretations must be found when it comes to the lower condom use observed among women with a sub-Saharan African partner. Contrary to studies which make the assumption of a lower risk awareness with sub-Saharan African partners (Gras et al. 2001; Gras et al. 1999; Wiggers et al. 2003), these women do in fact report a high HIV/AIDS risk perception, confirming that African communities are not always seen as being protective of its members (Calvez et al. 2006; Pourette 2008). This leads to an alternative hypothesis. The categorising of sub-Saharan African migrants as an "at-risk group" – in lay as well as in scientific discourse – may contribute to the creation of shared perceptions among these migrants and their partners, especially when the latter are not of sub-Saharan African origin. Their partners probably perceive these women to be at risk of being infected by HIV and suggest - or insist on - the use of condoms. Again, these results need to be interpreted with caution because of the small numbers involved, but they do inform the link between prevention practices and partner's origin. Racial boundaries seem to produce specific attitudes towards HIV prevention practices as shown by the higher condom use rates among women with a partner born outside sub-Saharan Africa. Both with a partner from sub-Saharan Africa or not, and regardless of condom use, gender relations place women in an unfavourable position when it comes to negotiating preventive practices.

Conclusion

Racial discrimination may facilitate the constitution of a sub-Saharan African minority, beyond country of birth, as shown by the fact that most people have sub-Saharan African partners. Additionally, racial boundaries seem to produce a specific attitude toward prevention given the higher condom use among women with a non sub-Saharan African partner. These results highlight the importance for HIV prevention of describing patterns of sexual mixing, and analysing how they are embedded in specific national contexts.

With the transformation of migratory patterns, studying the way in which the social boundaries of this group are moving, and which processes they are following, is critical for a better understanding of

the HIV epidemic patterns in high immigration countries (Hoffman et al. 2011). Existence of African sexual networks is an indicator of African social networks, over and beyond national origin. As a consequence, community-based approaches to HIV prevention should take into account the identification of migrants from sub-Saharan Africa as a racial minority and not only focus on national borders.

References

Del Amo, J., G. Broring, et K. Fenton. 2003. « HIV health experiences among migrant Africans in Europe: how are we doing? » *Aids* 17: 2261‑3.

Del Amo, J., G. Broring, F. F. Hamers, A. Infuso, et K. Fenton. 2004. « Monitoring HIV/AIDS in Europe's migrant communities and ethnic minorities ». *Aids* 18: 1867‑73.

Del Amo, J., S. Pérez-Cachafeiro, V. Hernando, C. Gonzalez, I. Jarrin, et F. Bolumar. 2009. « Migrant health : Epidemiology of HIV and AIDS in migrant communities ant ethnic minorities in EU/EEA countries ». Stockholm: ECDC.

Aspinall, P. J. 2008. « The categorization of African descent populations in Europe and the USA: should lexicons of recommended terminology be evidence-based? » *Public Health* 122: 61‑9.

Bajos, N. 1997. « Sexual risk-taking, socio-sexual biographies and sexual interaction: Elements of the French national survey on sexual behaviour ». *Social Science and Medicine* 44: 25‑40.

Barou, Jacques. 2002. « Les immigrations africaines en France au tournant du siècle ». *Hommes et migrations*: 6‑18.

Beauchemin, C., C. Hamel, et P. Simon. 2010. « Trajectoires et Origines ». Documents de travail. Paris: Ined.

Beltzer, Nathalie, Mylène Lagarde, Xiaoya Wu-Zhou, et Isabelle Grémy. 2005. « Les connaissances, attitudes, croyances et comportements face au VIH/sida en France en 2004 ». Paris.

Bozon, M., et F. Heran. 2006. *La formation du couple. Textes essentiels pour la sociologie de la famille*. Paris: La Découverte.

Burns, F. M., G. Arthur, A. M. Johnson, J. Nazroo, et K. A. Fenton. 2009. « United Kingdom acquisition of HIV infection in African residents in London: more than previously thought ». *Aids* 23: 262‑6.

Calvez, M., F. Fierro, A. Laporte, et C. Semaille. 2006. « Le recours tardif aux soins des personnes séropositives pour le VIH ».

Catarino, Christine, et Mirjana Morokvasic. 2005. « Femmes, genre, migration et mobilités ». *Revue Européenne des Migrations Internationales* 21: 7‑27.

Cazein, Françoise, Florence Lot, Josiane Pillonel, Roselyne Pinget, Vanina Bousquet, Yann le Strat, Stéphane Le Vu, et al. 2010. « Surveillance de l'infection à VIH-sida en France, 2009 ». *Bulletin épidémiologique hebdomadaire*: 467‑472.

Cazein, Françoise, Josiane Pillonel, Yann le Strat, Florence Lot, Roselyne Pinget, Danièle David, Marlène Leclerc, et al. 2009. « Surveillance de l'infection à VIH-sida en France, 2008 ». *Bulletin épidémiologique hebdomadaire*: 434‑443.

Cole, P. 2007. « Human rights and the national interest: migrants, healthcare and social justice ». *Journal of Medical Ethics* 33: 269‑72.

Dahiden, Janine, Magdalena Rosende, Natalie Benelli, Magaly Hanselmann, et Karine Lempen. 2007. « Migrations : genre et frontières - frontières de genre ». *Nouvelles Questions Féministes* 26: 4‑14.

DiClemente, R. J., G. M. Wingood, R. A. Crosby, C. Sionean, B. K. Cobb, K. Harrington, S. L. Davies, E. W. Hook, et M. K. Oh. 2002. « Sexual risk behaviors associated with having older sex partners: a study of black adolescent females ». *Sexually Transmitted Diseases* 29: 20‑4.

Elam, Gillian, et Kevin A. Fenton. 2003. « Researching sensitive issues and ethnicity: lessons from sexual health ». *Ethnicity and Health* 8: 15‑27.

Fenton, Kevin A., Catherine H. Mercer, Sally McManus, Bob Erens, Kaye Wellings, Wendy Macdowall, Christos L. Byron, et al. 2005. « Ethnic variations in sexual behaviour in Great Britain and risk of sexually transmitted infections: a probability survey ». *Lancet* 365: 1246‑55.

Gras, M. J., B. H. van Benthem, R. A. Coutinho, et A. van den Hoek. 2001. « Determinants of high-risk sexual behavior among immigrant groups in Amsterdam: implications for interventions ». *Journal of Acquired Immune Deficiency Syndromes* 28: 166‑72.

Gras, M. J., J. F. Weide, M. W. Langendam, R. A. Coutinho, et A. van den Hoek. 1999. « HIV prevalence, sexual risk behaviour and sexual mixing patterns among migrants in Amsterdam, The Netherlands ». *Aids* 13: 1953‑62.

Hoffman, S., J. A. Higgins, S. T. Beckford-Jarrett, M. Augenbraun, K. E. Bylander, J. E. Mantell, et T. E. Wilson. 2011. « Contexts of risk and networks of protection: NYC West Indian immigrants' perceptions of migration and vulnerability to sexually transmitted diseases ». *Culture Health and Sexuality* 13: 513‑28.

Insee. 2005. « Les Immigrés en France, édition 2005 ». Insee Collection « Insee-Références ». Paris.

Kalk, A., A. Kroeger, R. Meyer, M. Cuan, et R. Dickson. 2001. « Influences on condom use among young men in Managua, Nicaragua ». *Culture, health and sexuality* 3: 413‑428.

Kergoat, Danièle. 2001. « Le rapport social de sexe. De la reproduction des rapports sociaux à leur subversion ». *Actuel Marx* Les rapports sociaux de sexe.

Kesby, M., K. Fenton, P. Boyle, et R. Power. 2003. « An agenda for future research on HIV and sexual behaviour among African migrant communities in the UK ». *Social Science and Medicine* 57: 1573‑92.

Laumann, Edward O., John H. Gagnon, Robert T. Michael, et Stuart Michaels. 1994. *The Social Organization of Sexuality: Sexual Practices in the United States*. Chicago.

Lessault, David, et Cris Beauchemin. 2009. « Les migrations d'Afrique subsaharienne en Europe : un essor encore limité ». *Population et Sociétés*: 4.

Lot, Florence, Françoise Cazein, Josiane Pilllonel, Roselyne Pinget, Danièle David, Marlène Leclerc, Sophie Couturier, et al. 2006. « Surveillance de l'infection à VIH-Sida en France, 2005 ». *Bulletin épidémiologique hebdomadaire*: 371‑382.

Lydié, Nathalie. 2007. « Activité sexuelle et comportements préventifs ». In *Lydié, N (dir.). Les populations africaines d'Ile-de-France face au VIH/sida. Connaissances, attitudes, croyances et comportements*, 108‑124. Saint-Denis: Institut national de prévention et d'éducation pour la santé, coll. Etudes Santé.

Lydié, Nathalie, Philippe Guilbert, et Gaël Sliman. 2008. « Exemple de méthodologie pour une enquête auprès des populations d'Afrique subsaharienne ». In , 224‑228. Paris: Guilbert, P. (dir). Méthodes de sondage. Dunod, coll. Cours et cas pratiques.

McLean, C. A., et C. M. Campbell. 2003. « Locating research informants in a multi-ethnic community: ethnic identities, social networks and recruitment methods ». *Ethnicity and Health* 8: 41‑61.

Meurs, Dominique, Ariane Pailhé, et Patrick Simon. 2006. « The Persistence of Intergenerational Inequalities linked to Immigration: Labour Market Outcomes for Immigrants and their Descendants in France ». *Population* 61: 645‑682.

Ndiaye, Pap. 2008. *La condition noire. Essai sur une minorité française*. Paris: Calmann-lévy.

Onusida. 2009. « Le point sur l'épidémie de sida ». Genève: ONUSIDA.

Oppenheimer, G. M. 2001. « Paradigm lost: race, ethnicity, and the search for a new population taxonomy ». *American Journal of Public Health* 91: 1049‑55.

Pan Ké Shon, Jean-Louis. 2009. « Ségrégation ethnique et ségrégation sociale en quartiers sensibles ». *Revue française de sociologie* 50: 451‑487.

Pourette, D. 2008. « Migratory paths, experiences of HIV/AIDS, and sexuality : african women living with HIV / AIDS in France ». *Feminist Economics* 14: 149‑181.

Proctor, A., A. Krumeich, et A. Meershoek. 2011. « Making a difference: the construction of ethnicity in HIV and STI epidemiological research by the Dutch National Institute for Public Health and the Environment ». *Social Science and Medicine* 72: 1838‑45.

Prost, A., J. Elford, J. Imrie, M. Petticrew, et G. J. Hart. 2008. « Social, behavioural, and intervention research among people of Sub-Saharan African origin living with HIV in the UK and Europe: literature review and recommendations for intervention ». *AIDS and Behavior* 12: 170‑94.

Quiminal, Catherine, et Mahamet Timera. 2002. « 1974-2002, les mutations de l'immigration ouest-africaine ». *Hommes et migrations*: 19‑32.

Sadler, C. A. McGarrigle, G. Elam, W. Ssanyu-Sseruma, G. Othieno, O. Davidson, D. Mercey, J. V. Parry, et K. A. Fenton. 2006. « Mayisha II: pilot of a community-based survey of sexual

attitudes and lifestyles and anonymous HIV testing within African communities in London ». *AIDS Care* 18: 398‑403.

Sadler, C. A. McGarrigle, Gillian Elam, W. Ssanyu-Sseruma, O. Davidson, T. Nichols, D. Mercey, J. V. Parry, et Kevin A. Fenton. 2007. « Sexual behaviour and HIV infection in black-Africans in England: results from the Mayisha II survey of sexual attitudes and lifestyles ». *Sexually Transmitted Infections* 83: 523‑9.

Safi, M. 2008. « Inter-mariage et intégration : les disparités des taux d'exogamie des immigrés en France ». *Population* 63: 267‑298.

———. 2009. « La dimension spatiale de l'intégration des populations immigrées (1968-1999) ». *Revue française de sociologie* 50: 521‑552.

Santelli, J. S., A. C. Kouzis, D. R. Hoover, M. Polacsek, L. G. Burwell, et D. D. Celentano. 1996. « Stage of behavior change for condom use: the influence of partner type, relationship and pregnancy factors ». *Family Planning Perspectives* 28: 101‑7.

Van Veen, M G, H Schaalma, A P van Leeuwen, M Prins, O de Zwart, M J W van de Laar, et H J Hospers. 2011. « Concurrent partnerships and sexual risk taking among African and Caribbean migrant populations in the Netherlands ». *International journal of STD & AIDS* 22 (5): 245‑250.

Van Veen, M. G., M. A. Kramer, E. L. Op de Coul, A. P. van Leeuwen, O. de Zwart, M. J. van de Laar, R. A. Coutinho, et M. Prins. 2009. « Disassortative sexual mixing among migrant populations in The Netherlands: a potential for HIV/STI transmission? » *AIDS Care* 21: 683‑91.

Le Vu, S., Y. Le Strat, F. Barin, J. Pillonel, F. Cazein, V. Bousquet, S. Brunet, et al. 2010. « Population-based HIV-1 incidence in France, 2003-08: a modelling analysis ». *Lancet Infectious Diseases* 10: 682‑7.

Wiggers, L. C., J. B. de Wit, M. J. Gras, R. A. Coutinho, et A. van den Hoek. 2003. « Risk behavior and social-cognitive determinants of condom use among ethnic minority communities in Amsterdam ». *AIDS Education and Prevention* 15: 430‑47.

Xiridou, M., M. van Veen, R. Coutinho, et M. Prins. 2010. « Can migrants from high-endemic countries cause new HIV outbreaks among heterosexuals in low-endemic countries? » *Aids* 24: 2081‑8.