

## Knowing the Profile of Clients from the Screening and Information Centre (CADI) for Better Planning and Case Management in Bobo-Dioulasso, Burkina Faso

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### ABSTRACT

**Background:** Counselling associated with screening is the entry point into the management for HIV-infected people. The purpose of the present study was to compare the profile of clients from the Screening and Information Centre (CADI) with those from the general population.

**Methods:** A cross-sectional study including all complete medical records of CADI clients from 1996 to 2006 was conducted. The following information were collected: age, sex, education level, marital status, reasons for screening, desire to share one's HIV status. The data were analyzed using stata13 software. Pearson khi2 Test was used to compare qualitative variables while Student Test was used to compare averages. The 0.05 significance level was applied.

**Results:** A sample of 752 observations was analyzed. In 1996, the average age of CADI clients was (29.95 years [29.79 -31.26]) higher than the average age of the general population (21.7 years;  $p < 0.0001$ ). The proportion of women tested at CADI was similar to the proportion of the general population ( $p = 0.980$ ). The proportion of educated clients (73.03%) was higher than the general population (76.3%;  $p < 0.0001$ ), with the same applying for people living in couple (49.15%;  $p < 0.0001$ ) and workers (58.65%;  $p < 0.0001$ ). In 2006, the average age of people tested at CADI (30.62 years) was higher than the average age of the general population (21.7 years;  $p < 0.0001$ ). The proportion of women attending CADI (61.7%) was significantly higher than in the general population (51.7%;  $p < 0.0001$ ). The proportion of educated clients (75.56%) was also higher than the general population (26.1%;  $p < 0.0001$ ). The proportion of CADI clients living in couple was higher (58.93%) although it was low in the general population (0.6%;  $p < 0.0001$ ).

**Conclusion:** The profile of CADI clients is different from the profile of the general population. Further action must therefore be taken for greater awareness among the less adhering to HIV screening.

**Keywords:** Screening; Profile; HIV; Bobo dioulasso; Case management

### INTRODUCTION

Counselling combined with screening is one of the basics in terms of actions to control HIV infection [1] globally. It is an efficient prevention strategy in terms of improving information

on the epidemic [2], opportunities to promote safer behavior among HIV-negative people as well as HIV-infected people [3,4]. Increasing the number of early screenings [5] is fundamental for efficient HIV control. However, access to facilities is limited both at international and national levels [6,7]. In Burkina Faso,

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the Screening and Information Centre (CADI) of Bobo-Dioulasso is the only center still in operation since inception 20 years ago [8]. It's probably the center that recorded greater numbers of clients because it is the oldest one in the country; but the profile of the clients of this center is unknown. In 2012, attendance rate at the screening center was estimated to 20% [9]. A number considered low because screening the unique entry point to HIV treatment. Considering that, it is fundamental to know the profile of the CDV's clients and their reasons for adhering. Moreover, knowledge of the groups adhering to the early screening is important in the fight against HIV, since it allows us to focus interventions on the groups that are least adherent to the test. This study aimed to describe the profile of the clients of the Screening and Information Centre (CADI) of Bobo-Dioulasso and to compare it with the profile of the general population. The purpose of the present study was to compare the profile of clients from the Screening and Information Centre (CADI) with those from the general population for better planning and managing HIV cases.

## MATERIALS AND METHODS

The anonymous Screening and Information Centre (CADI) was created in 1996 with the aim of making HIV screening accessible, providing information on HIV as well as a listening platform for as many people as possible [9]. Located in the premises of Centre Muraz in Bobo-Dioulasso, CADI has contributed to the screening of more than 161,382 people as part of a fixed strategy from May 1996 to June 2014 [10]. The center is opened Monday through Friday 8 a.m. to 5 p.m. and Saturdays 8 a.m. to 12 p.m. Demographic data are recorded on individual forms provided for every single client. Trained interviewers collected socio-demographic and behavioural data from clients on standardized forms since May 1996.

A cross-sectional, descriptive and retrospective study was carried out based on data collected for 18 years, i.e., from 1996 to 2014. A yearly random sampling was carried out. Sample size was calculated to highlight a 5 percentage point difference in the prevalence recorded over two distinctive years [11]. The expected size was 755 cases screened per year. Only data from 1996 and 2006 were used because data from the general population of Burkina Faso are only available for these years. In total, 1,510 screened cases were expected. When less than 755, tests were registered (1996 to 2006), all available data were used. The size of the sample was 752 tests.

Medical records of people screened at CADI were used to collect data on socio-demographic characteristics (age, sex, nationality, marital status, education level, and occupation), behavior features (existence of sexual partner(s), use of condom, and sharing information on serological status), reasons for screening, and HIV test result.

Data on the general population were taken from the population census carried out consecutively in 1985, 1996, and 2006. The profile of CADI clients was compared with the general population only for 1996 and 2006 when data from the census were available. Seven hundred fifty-two (752) observations were compared to the data of the general population.

Data were analyzed using Stata SE 13 software. Pearson khi2 test was used to compare qualitative variables whereas Student test was used to compare averages. A significant rate of 0.05 was applied.

## RESULTS

### Socio-demographic and behavior patterns

Our study included 752 observations (104 observations in 1996 and 648 in 2006). Globally, the distribution of the targeted population per month indicated an increased rate of screening in January (15.17%), June (10.01%), and November (11.96%). Most CADI clients were Burkinabe people (95.60%). Clients' average age was  $30 \pm 10.8$  years. The 752 identified clients included 454 women (60.37%) and 298 men (9.63%). Sex ratio was 0.80. People living in couple were most represented (61.7%) followed by bachelors (20.28%) and widowers (9.68%). Among CADI clients, divorced people were least represented (7.38%). Most CADI clients were educated (72.63%) and more than half of them (61.33%) had an occupational activity.

Approximately two thirds of the screenings (71.35%) were carried out on request of a third party (physician, spouse or religious person). Reasons for screening reported by CADI clients included the presence of symptoms (10.71%) and unprotected sex (7.36%). The desire to know one's serological status was the least reported reason (1.34%). 22 clients (2.95%) reported the death of a partner whereas 35 clients (4.69%) reported a pre-marital check-up. Seven hundred and seven (707) people (94.01%) tested at CADI reported that they have had sex. 572 people (76.47%) had a sexual partner when screening was performed while 391 clients (63.77%) reported to have used a condom. Over half of the clients (53.05%) had used condoms as means to prevent HIV infection. In 18.05% of cases fidelity was reported followed by abstinence (12.62%). Out of the 733 clients (97.47%) who answered the question on sharing the HIV test result, 596 (81.31%) reported that they desire to share their serological status with a third person: the most chosen person was the sexual partner (52.53%) whereas the physician was the least chosen person (0.3%). Friends and relatives were also chosen in more than one-quarters of cases (29.61%).

### Profile of CADI clients in 1996

In 1996, the average age 29.99 years [29.80129 - 30.19801]. Women were mostly represented (55.92%) with a sex ratio of 0.92. the center was more frequented by people in school (73.03%), and cohabiting with a partner (49.15%).

### Epidemiological profile of CADI clients in 2006

In 2006, the average age 30.62 years +/- 0.39. Women were mostly represented (61.73%) with a sex ratio of 0.62. the center was more frequented by people in school (73.08%), and in sexual activities (49.15%).

### Epidemiological profile of CADI clients compared to the general population in 1996

In 1996, the average age 29.99 years [29.80–30.20] of people tested at CADI was higher than that of the general population (21.70 years).

**Table 1:** Comparison of the socio-demographic features between Screening and Information Centre clients and the general population in 1996, Bobo-Dioulasso Burkina Faso.

	CADI clients in 1996 population		General population in 1996		P
	N	%	N	%	
<b>Sex</b>					
Female	54	51.92	5,341,727	51.8	0.98
Male	50	48.08	4,970,882	48.2	
<b>Education level</b>					
None	28	26.92	9,312,286	90.3	< 0.0001
Primary school	19	18.27	721,883	7	
Secondary school	43	41.35	237,190	2.3	
High school	14	13.46	41,250	0.4	
<b>Occupation</b>					
Yes	61	58.65	722,089	70.02	0.01
No	43	41.35	308,347	29.9	
<b>Marital status</b>					
Cohabiting partners	51	49.15	79,777	0.3	< 0.0001
Widowers	14	13.56	331,225	5.4	
Divorced	23	22.03	37,830	0.6	
Married	14	13.56	3,503,504	56.9	
Single	2	1.69	2,175,666	35.5	

There was no statistically significant relationship between the number of tested women (51.92%) and that of the general population (51.8%),  $p=0.98$ . On the contrary, the relationship between the proportion of educated people attending the center and that of the general population was statistically significant. Educated people adhered to HIV screening.

The proportion of clients with a secondary school background (41.35%) was higher than that of the general population (2.3%),  $p<0.0001$ . The proportion of people with an occupational activity was lower (58.65%) than that of the general population (70.02%,  $p=0.01$ ). In the same vein, people living in couple (49.15%) and divorced (22.03%) were more represented among

CADI clients, compared to their proportion in the general population (0.3% and 0.6%,  $p<0.0001$ ). On the contrary, married people (13.56%) and especially bachelors (1.69%) were the least represented, compared to their proportion in the general population (56.9% and 35.5%), with a statistically significant relationship ( $p<0.0001$ ; Table 1).

### Profile of CADI clients compared to the general population in 2006

In 2006, the average age (30.62 years) of people tested at CADI was considerably higher than that of the general population (21.8 years),  $p<0.0001$ .

**Table 2:** Comparison of the socio-demographic features between Screening and Information Centre clients and the general population in 2006, Bobo-Dioulasso Burkina Faso.

	CADI clients in 2006 population		General population in 2006		P
	N	%	N	%	
<b>Sex</b>					
Male	248	38.27	4,114,724	48.3	< 0.0001
Female	400	61.73	4,404,373	51.7	
<b>Education level</b>					
None	177	27.31	1,263,304	73.9	< 0.0001
Primary school	155	23.91	900,117	18	
Secondary school	272	41.97	625 397	6.90%	
High school	44	6.79	104,481	0.90%	
<b>Occupation</b>					
Yes	400	61.72	6,048,559	71	< 0.0001
No	248	38.27	2,470,538	29	
<b>Marital status</b>					
Cohabiting partners	382	58.95	48,842	0.6	< 0.0001
Widowers	59	9.10	467,564	5.5	
Divorced	36	5.6	69,150	0.8	
Married	21	3.24	4,840,926	56.8	
Single	150	23.14	3,093,214	36.3	

The proportion of women HIV tested (61.73%) was higher than that of the general population (51.7%),  $p < 0.0001$ . Similarly, educated people (especially those with a secondary school background) attended the center more than the uneducated (27.31%) who attend the center three times less than in the general population (73.9%),  $p < 0.0001$ . People living in couple were 65 times more represented among CADI clients, compared to their proportion in the general population. On the contrary, married clients (3.24%) and bachelors (23.14%) were respectively 15 and 2 times less represented, compared to their proportion in the general population with respectively 56.8% and 36.3%,  $p < 0.0001$ . However, compared to the general population, uneducated and divorced people, mainly men, attended the least the center (Table 2).

## DISCUSSION

Limitation of the study: Since this study is retrospective, the main limitation is a possible information bias.

The monthly distribution of the targeted population highlighted a considerable screening rate in January (15.17%), November (11.96%), and June (10.01%). The peak in January and November is an immediate response of the population to awareness campaigns. Held every 1st December, the World AIDS Day is an opportunity for actors of HIV infection control to intensify sensitization with particular emphasis on prevention [12].

In June the fact that pupils and students are in holidays could explain the peak. Besides, they represent most of CADI clients. The average age of clients tested in 1996 and 2006 is higher than that of the general population, all the more as the centre does not allow HIV screening for the youth under 18. The presence of maternal antibodies at this age requires efficient techniques including polymerase chain reaction to detect HIV infection. In addition, HIV infection is highly transmitted by sex, so sexually active people are likely to get themselves tested. The rate of women tested is higher than that of the general

population, a conclusion that has already been drawn in the literature [9].

This could be due to the fact that women are more likely to get tested as part of a fixed strategy. Besides, to recall, the national policy for HIV control gives more opportunities to women for counselling on voluntary HIV screening, especially during prenatal visits. Reasons for the low screening rate among men as part of a fixed strategy will be determined in order to better address HIV infection. Educated people adhered better to HIV screening compared to the uneducated. This shows the importance of education in HIV infection control. Yet, over half of Burkinabe people are uneducated. Therefore, increasing awareness campaigns as well as accessibility to uneducated audience is crucial. People living in couple were the most represented among CADI clients, compared to their proportion in the general population. On the other hand, married people and bachelors were the least represented in the study compared to their proportion in the general population. In USA, Schechter-Perkins et al. [13] reported that bachelors were more supportive of HIV screening test. Dissimilar conclusions can be explained by the high rate of education in USA, compared to Burkina Faso, which allows bachelors to have a better understanding of the risks involved. Kirakoya-Samadoulougou et al. [14] in Ouagadougou noted that 48.6% of tested people were married. Fiorillo et al. [15] in Hensen et al. [16] in Zambia noted a high screening rate among married people and widowers [17]. In our study, the desire to know one's serological status was the first reason for screening. In the same line, Ndiaye et al. [18] noted that in 69% of cases people were curious to know their serological status. Mc Garrigle et al. [19] in Great Britain highlighted that factors closely associated with voluntary screening included multiple sexual partners and new foreign sexual partners. Such conclusions can be explained by the fact that in Great Britain most people know their serological status because they have already been tested. So retesting means they were involved in high-risk behaviours. In addition, the British and the Burkinabe have a different appreciation of HIV infection and this could explain such conclusions. For Fiorillo et al. [15], the main reasons for screening included infidelity and existence of a new partner. It should be noted that in their study focused on the reasons that could lead people to retest.

The first objective of our study is the alarming drop in behaviour and people tending to minimize the related-dangers. In this respect, the centre's clients have indicated in 65.69% of cases that they have had several sexual partners. This shows that high risk behaviour is common practice, especially among the youth, making them vulnerable to HIV infection. During DHS IV, 45.83% people reported that they had more than two sexual partners [19]. To recall, it is very delicate asking questions on people's sexual behaviour; therefore it is possible that some risky behaviours were not revealed. In addition, less than half of the people tested (39.82%) at the centre stated that they regularly use condoms. It means that the majority of our population had risky behaviours. Is such a risk taking attitude an expression of drop in vigilance or trivialization of HIV infection? Studies indicate that in the general public reactions could change from one extreme to the other: from panic fear to be contaminated to trivialization to some extent with the introduction of efficient

treatment [20,21]. An increasing number of people do no longer fear HIV infection that they consider as a chronic disorder. Calderon et al. [3] in a prospective study carried out in New York noted that 24.3% of patients admitted in the emergency ward and who accepted HIV screening did not use condoms. Sherr et al. [4] in a Zimbabwean rural cohort found no relationship between risky behaviours and screening counselling.

## CONCLUSION

Screening is the basics for appropriate response to HIV infection. In Burkina Faso, the Screening and Information Centre is the oldest screening centre with considerable database that could help re-design response strategies to HIV infection. The epidemiological profile of the centre's clients differs from that of the general population, i.e., one part of the population with access to screening facilities does not adhere to screening. Reasons for low self-screening must be identified in order to give more value to actions aiming to control HIV infection. It is fundamental to completely re-design prevention strategies by focusing actions on targeted population (the most vulnerable and the least supportive of screening). In this perspective, the World Health Organization emphasizes that further actions must be taken to diagnose and treat sex workers, prisoners, injecting drug use, transgender people and MSMs. And further action must therefore be taken for greater awareness among the population, particularly among the less adhering to HIV screening, in order to better plan and manage HIV cases.

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