Evaluation of HIV knowledge among general practitioners in health centers in Brazzaville

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Abstract- Background: Advances in HIV care have reduced mortality and the number of new infections. HIV knowledge among general practitioners and HIV prevention are important elements in the fight against HIV. In the Republic of Congo, reluctance to address this issue persist among general practitioners.

Purpose of the study: This study aimed to explore the influence of HIV representation in HIV prevention and testing and to assess HIV knowledge among general practitioners in Brazzaville.

Method: This is a qualitative study by semi-directed interviews with general practitioners recruited in a reasoned manner and in maximum variation, in the health centers of Brazzaville.

Results: Thirty-five interviews were required to obtain saturation of the data. The majority of general practitioners are involved in screening and prevention, but none are involved in the treatment and monitoring of patients. For some, the subject is difficult to address because of the image it conveys to the patient, or to their own embarrassment. For others the relationship of trust, allows to address the subject. Some are related to the context of the consultations, the doctor-patient relationship, the patients and their reactions. Others are related to the doctors themselves: the sexual approach or their formation.

Discussion: Physicians respond well to their role of primary care except for the treatment for which they do not feel concerned because of other specialties. The image conveyed by HIV and the lack of training remain difficult obstacles to overcome.

Better information of the population seems to be a way to make the approach to HIV prevention and screening more acceptable to patients and more systematic in the practice of doctors. Nevertheless, their involvement and training are essential. Conclusion: Our study shows, on the one hand, that the representation of HIV of general practitioners can strongly condition their practices, on the other hand knowledge can clearly influence their attitude towards HIV. The trivialization of HIV is not effective in the Republic of Congo, it is premature to address the trivialization of HIV testing, the key to care.

Index Terms- HIV, Knowledge, General practitioners, Health centers, Brazzaville

I. INTRODUCTION

According to the UNAIDS 2017 report, about 36.7 million people worldwide living with HIV/AIDS at the end of 2016. Of these, 2.1 million were children (<15 years old). Most of these children live in sub-Saharan Africa and were infected by their HIV-positive mothers during pregnancy, childbirth or breastfeeding [1].

In the central african region, in the Republic of Congo, HIV/AIDS remains a major public health problem, with the number of newly infected people falling from 5,200 in 2005 to 7,600 in 2016. In 2016, there were 1100 children newly infected with vertical transmission. The number of people living with HIV has increased from 6,000 in 2005 to 91,000 in 2016 [2]. An estimated total of 91 000 individuals are living with HIV in the Republic of Congo et seulement 21 000 people living with HIV who are on treatment[2].

The UN goal on HIV/AIDS to reach 90-90-90, will be difficult. Achieving these goals will eliminate HIV transmission by 2020 [2,3]. In 2016, 29% people living with HIV who know their HIV status ; 23% people living with HIV who are on treatment and people living with HIV who are virally suppressed are not known [2].

For people living with HIV, HAART is a valuable tool for surviving HIV infection [4,5]. Treatment of HIV is an important strategy in fighting the HIV epidemic, with public and individual health benefits [6–9].

One of the reasons for the HIV epidemic is an insufficient knowledge of HIV and its spread in both the general population and among health professionals [10–12]. Health professionals should be the best trained to fight this epidemic[13].

General practitioners (GPs) are the primary point of access to healthcare, including sexually transmitted infection (STI) care. The majority of healthcare for people with STIs is provided by GPs where they receive syndromic treatment for STIs by following the national treatment guide against STIs [14,15]. A study conducted in the Netherlands revealed that around 70% of STI consultations are taking place in the general practice, and more than 30% of HIV patients are diagnosed in this setting [16]. Health professionals, especially doctors and equipment, are not distributed throughout the national territory in proportion to the population, regional disparities and those between urban and rural areas are important.

The general practitioner has a primary role: to treat health problems, or to refer patients after a suitable referral to a specialist [17]. The general practitioner is therefore the specialist
in health monitoring, prevention, care and treatment of patients in his community [18,19]. The general practitioner is, because of his specific exercise of proximity and ground, the center of care networks. It is a privileged partner of public health actions: prevention, screening, health and social education [20–23].

In the Republic of Congo, the majority of citizens in case of illness visit a general practitioner who can be the main educator for health prevention, including that related to HIV/AIDS. In this context, this study was conducted to understand the phenomena that can influence the involvement of general practitioners in the prevention and detection of HIV/AIDS infection in institutions in Brazzaville, Republic of Congo, in 2017.

II. METHODS

Design

It was a cross-sectional, qualitative study conducted with general practitioners, in the form of a thorough interview. It was qualitative survey by semi-directive individual interviews conducted with general practitioners. We asked permission from health facilities, to collect a list of general practitioners who regularly practice in these places. A standard letter had been submitted to the administrative department of these health facilities and presented to each general practitioner. This letter, sent by the National Institute for Research in Health Sciences, presented the study and asked the agreement of the doctor to participate then the authorization of the health facility to allow the realization of the investigation.

Study zone

The study was conducted in 5 health facilities in Brazzaville, Republic of Congo. The city of Brazzaville is the political and administrative capital at a distance of 512 km East of Pointe-Noire, the economic capital of the Republic of Congo, located in the extreme south of the country. This area is commonly known for its oil activity, which is still the main sector of the economy of our country.

Important parameters

In HIV prevention, health facilities also offer integrated HIV counseling and testing services and the PMTCT program. According to the Comité National de Lutte contre le VIH/SIDA (CNLS) report, Brazzaville is the first city with 3.1% HIV prevalence [24].

Qualitative data were generated from 35 well-informed GP respondents through in-depth interviews. The sampling unit was the health facilities while the units of study were the general practitioners who agreed to participate in the study.

Study population and recruitment

The study population was that of general practitioners practicing in Brazzaville in August 2017. Recruitment was conducted with general practitioners Brazzaville, appointments were taken directly to the health center, taking care to explain the topic of study. Recruitment was carried out in order to obtain the most diversified sample possible. Thirty-five interviews were conducted before reaching saturation of the data.

Preparation and completion of interviews

The interviews were prepared using a maintenance guide. The interviews were all conducted in the health centers of the doctors interviewed and written on the survey form. It was stated systematically that it was anonymous interview.

Interview Analysis

We did the sentence-by-sentence analysis of the data collected, according to the questions asked. No analysis grid, no themes are defined in advance. To increase the internal validity of the study, the interviews were re-read.

Saturations of the data

The number of interviews has not been determined in advance. The interviews were interrupted when no new code appeared in the analysis of the last two interviews. The sample size of our study was obtained by "data saturation" at the end of the 33rd interview. This was verified by two additional interviews bringing the total number of interviews to 35.

During recruitment 35 general practitioners were contacted, 8 doctors refused to participate in the study after the first contact:

- because they were short of time, their schedule was too busy for 5 of them.
- because they did not feel concerned by the subject for 2 of them.
- did not want to be evaluated
- judged that there were too many questions in the questionnaire
- no justification for one of them

Study population

Health establishments

We requested by mail the administrative service. We had confirmation of the feasibility of our data collection and the acceptance to participate. Of the 94 health facilities requested, unfortunately, fewer than 20 health centers participated in the study. The majority of integrated health centers in Brazzaville do not have general practitioners. In reference hospitals, there are several general practitioners. We also surveyed private clinics and social health centers.

General practitioners

Each health facility has given us a list of general practitioners. In total, we had 66 general practitioners. Of the 66 questionnaires distributed to general practitioners, 35 have agreed to participate and were completed, representing a participation rate of 58.3%. There were 31 general practitioners did not participate: 17 doctors did not answer the questionnaire and 14 refused to participate. The first part of the questionnaire included the socio-demographic characteristics of each participant.

The majority of general practitioners refused to mention their name, age, sex, seniority and place of work, so as not to be identified later. They considered the survey as a personal assessment and feared that their medical practices would be criticized.

Inclusion criteria

All GPs who agreed and responded to the questionnaire were included in our study. GPs who refused to participate in the study or did not respond were excluded from our study. GPs who
agreed to participate but did not respond to the questionnaire were excluded. The inclusion of health facilities lasted 1 month, from August 1 to 31, 2017. The doctors were included over a period of 1 month.

Elaboration of the questionnaire

This is an anonymous qualitative questionnaire comprising 4 parts: Identification of the general practitioner, representations on the preventive activity to the general practitioner, representations on the HIV disease, representations on the patients, representations on the role of the general practitioner, representations on HIV prevention, representations on HIV testing, representations on the approach to sexuality, representations on training, representations on new recommendations.

In the identification characteristics of the general practitioner, we collected: age, sex, grade and seniority. The questions concerning the intensity of their activity, their training on the care of people living with HIV and the number of HIV-positive patients for whom they are responsible were the subject of the questionnaire. Finally, we asked general practitioners if they had activities parallel to their work. All parts of the questionnaire were transcribed in an Excel table version 10.

The criterion required to define the size of the sample was the so-called "data saturation" phenomenon. It was obtained when the data collected in a new interview no longer provides new information. This was confirmed by conducting two additional interviews.

Data collection

The individual interviews were conducted using an interview guide. This was developed by defining the topics to be treated from a review of the literature and objectives of our study. Each theme was addressed by an open question, formulated in the most neutral way possible, and questions of stimulus. An information collection card made it possible to record the characteristics of the participants. The interviews were not recorded, but were directly transcribed ad integrum using a Windows computer and Excel Microsoft Word software.

Ethical and financial aspects

No data on patients was collected. The questionnaire was anonymous. The study was not the subject of internal funding to know sex for the first time and in all patients in general. Prevention is important among women attending antenatal clinics.

MG<sup>3</sup> "Very little prevention of HIV, more often the possible screening when we receive a patient".

MG<sup>13</sup> "Hygiene rule, be careful about all patients or the serological status is not known".

What is the place for prevention activity in general in your daily practice?

All cited the important role of prevention in their daily practice, attention and put on this vulnerable population at risk.

MG<sup>28</sup> "Occupies a primordial place especially in the pregnant woman".

Under what circumstances do you approach HIV prevention?

Under what circumstances do you prescribe an HIV test?

Many doctors have indicated that not only the clinical signs suggestive of an infection, but the lifestyle, the prenuptial test were all circumstances that could lead to addressing the subject on HIV. In general, routine consultations remain an ideal opportunity to approach prevention. Some doctors have mentioned risky behaviors such as the use of soiled objects or sexual intercourse. Prescriptions for the screening test are done during prenuptial tests, prenatal tests and risk behaviors.

MG<sup>5</sup> "In the face of a suspicious clinical picture of immunodeficiency, a woman and a man of childbearing age who came for consultation, before and after screening," patient with signs of the disease ".

MG<sup>10</sup> "In the usual way, especially in the context of healthy lifestyle in community between partner".

MG<sup>18</sup> "During prenuptial testing, among adolescents who come to know sex for the first time and in all patients in general".

MG<sup>22</sup> "Sexual Behavior at Risk, Use of Sharps".

MG<sup>30</sup> "During routine medical consultations".

MG<sup>7</sup> "Patients having sex without a condom or if the condom is torn apart, patients wanting to have a child, pregnant woman or patient wanting to know their condition".

MG<sup>18</sup> "During prenuptial testing, in front of a long-term fever picture; during a preoperative assessment; during prenatal consultations, during a general assessment (at the request of the patient)".

MG<sup>35</sup> "Unprotected sex, pregnant women, before transfusion (or donation of blood)".

Under what circumstances do you offer an HIV test?

MG<sup>18</sup> "Cases of rape, after needlestick used by the hospitalized patient, during unprotected sexual intercourse suspecting his partner "

Table 1 summarizes the characteristics of general practitioners.

1. Representations on the preventive activity to the general practitioner

How do you approach the prevention activity in general in your daily practice?

For the majority of doctors, prevention is not optimal because there is not enough time, but screening is systematically offered to patients. Prevention is important among women attending antenatal clinics.

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What are the difficulties in doing prevention?
Attitude and perception were highlighted as difficulties in making prevention, but also knowledge of HIV in patients.

General practitioners were the non-acceptance of the HIV-related prejudices of patients for the disease**. 

Reluctance of some patients to use the condom, lack of didactic tools allowing the diffusion of the message**.

What are difficulties to tackle HIV prevention?
The main prevention-related issues cited by general practitioners were the non-acceptance of the HIV-related discussion due to the fear of death, the refusal to learn more, the various beliefs.

Generally patients hate to hear this disease because they think directly about death**.

Religious beliefs, customs or simply refusal**.

What can be the difficulty of offering a screening test?
Three major difficulties appear as a brake to offer the HIV test.

Refusal to consent to screening for a patient with an acceptable general condition**.

Psychological state of the patient**.

If one partner is reached without the other knowing it; religious beliefs**.

What can be the difficulties in doing prevention?
Two paths of orientation on the difficulties encountered by general practitioners: the patient at the heart of prevention, who must give his approval, but also the health system that has failing points in particular in the material resources or the quality of training.

Voluntary refusal of means of prevention, lack of means of prevention, inattention**.

The difficulties of prevention are: mass consultation (too many patients waiting), inefficiency in training, information and communication**.

2. Representations of HIV/AIDS disease
In summary the evocation of this disease is subject to psychosis, this disease has a negative and destructive connotation.

A feeling of large-scale destruction of human life, as everyone can suffer from it**.

HIV evokes a scourge for me, which is weakening youth and a problem of care**.

A serious illness that anyone can catch, but everyone can avoid**.

3. Patient representations
What is the patient's view of HIV today?
Doctors talk about patient resentment of the disease.

A lot of patients do not accept this disease and they think it's witchcraft**.

Negative outlook vis-à-vis the unaffected population**.

There is always no fear of discrimination and the sight of others and also the fear of death**.

How are patients sensitized to HIV?
Doctors have indicated various means of awareness, but some thought that it would be necessary to sensitize also by sessions in groups of words and workshops.

They are sensitized through the media, hospitals, Integrated Health Center, Church, NGO**.

Inform and raise awareness through sessions, workshops to establish a dialogue on the subject by changing the patient's behavior**.

What means do they have to inform themselves?
Several provisions are cited as means of information in the fight against HIV/AIDS.

These are the mobilization sessions that are done at work the population and the medical staff at the health worker is supposed to do a health education**.

Anonymous and Voluntary HIV Treatment and Testing Center, National HIV/AIDS Program, Hospitals and Media**.

4. Representations on the role of the general practitioner
What is your personal experience with HIV?
Few doctors had experience with HIV; They did not have HIV-positive patients among their patients, and felt they had little expertise in monitoring HIV patients. They redirected immediately to a specialist for follow-up.

No more outside theoretical knowledge**.

I warn with advice, I put the diagnosis and put the patients back to the monitoring unit**.

What is the role of the GP in relation to HIV?
Most GPs spoke of prevention, screening, but also compliance.

Encourage patients to observe sexual health conditions and to follow their treatment on a regular basis**.

To inform more precisely all sexually active patients of the existence of the disease, means of prevention, encourages the voluntary screening, to detect any patient and to ensure the psychological support, by encouraging the taking of the treatment and the follow-up of the patient HIV positive**.

5. Representations on HIV prevention
How do you approach HIV prevention in your daily practice?
GPs cited talking about prevention, or explaining the disease to patients.

Follow hygiene procedures and recommendations for handling needles, wearing gloves, bibs and goggles during unsafe procedures**.

HIV prevention is done by: condom use, abstinence and fidelity**.

Explanation of pathology, transmission route, means of prevention (condoms, abstinence and fidelity)**.

What are suggestions for improving HIV prevention?
Several recommendations, all focused on information and communication around HIV/AIDS.

MG2 "Advertising campaign, information on TV or radio, stand in neighborhoods, training of medical and paramedical agents".

MG12 "Disseminate information, continuous training, self-training, encourage voluntary testing".

MG15 "The door-to-door campaign to educate as many people as possible".

MG19 "Try to help, providers with motivations; train and retrain providers (midwives, general practitioners, gynecologists, etc.); to use social networks, TV, conference debates; integrated into the school curriculum".

6. Representations on HIV testing

How do you approach the prevention activity in general in your daily practice?

Here, the patient is at the center of the process. All occasions where the doctor could be in front of a patient were opportunities to carry out a prevention activity. The doctors revealed that there was patient involvement as a trigger to address the prevention activity.

MG9 "As part of an infectious assessment to assess the general condition of the patient. Upon personal and voluntary request for a screening report".

MG30 "During the consultation, if there is suspicion, we do the counseling and we propose to the patients to do".

MG32 "Psychological care precedes the screening process. It is necessary to obtain the adhesion of the patient beforehand".

What would your suggestions be for improving HIV testing?

Doctors suggest making tests available in all health facilities and systematically screening for HIV in a health check.

MG10 "Make available in all hospitals and Integrated Health Centers, screening tests and in a systematic way".

MG15 "Free screening at home, in the markets, in the meeting centers".

MG25 "Propose a test in any health check first, or even school report, improve the medicine SVR".

7. Representations on the approach to sexuality

How do you relate to the approach of sexuality?

Doctors thought that sexuality should be approached while talking about HIV, although there are other modes of contamination. Talking about sexuality was also their responsibility.

MG1 "Certainly, transmission is not only about sex but we can not dissociate sexuality and HIV".

MG14 "Sexuality is not a taboo subject; addressing this topic with patients would be wise and responsible in order to provide advice.

How do you feel about talking about it?

GPs thought of talking about sexuality helped in the prevention of sex-related diseases.

MG2 "No discomfort as long as it can help prevent primary, secondary and tertiary entanglement".

Some said that they proudly participated in increasing the level of knowledge of patients and the life expectancy of people through information.

MG32 "A pride in bringing knowledge to those who need it. Sense of being able to save human lives through information (health education)".

How is this subject addressed? Do you speak spontaneously?

Doctors all thought that sexuality was difficult to approach with patients, but ways to address the subject could be created.

MG12 "It is approached in a context of trust and speak in a progressive way with method".

MG22 "No, you have to find a trick especially when you are dealing with a lady or an approved person".

Depending on the patient, some doctors could find a way to convey information about sexuality.

MG23 "No, it is a delicate subject I approach it according to the level of education of the patient".

Some doctors thought that sexuality was little approached because of the modesty that implies or related taboos on this subject.

MG9 "Taboos, religious dogmas".

MG15 "Modest parents find it almost unnatural to talk about their sexuality to a person".

MG27 "Shame especially when there is a big age difference between the two opposite sexes".

8. Training Representations

What is your personal training on HIV?

Most doctors have not yet done any training on HIV, they are all documenting to acquire the information needed to care for HIV-positive patients.

MG9 "Self-taught, apart from courses taught in faculty as a student".

MG18 "Actually, I have not done any HIV training yet, but I am researching myself. Personally, I will be interested in doing so."

What do you think about GP training on HIV?

All the doctors thought that the knowledge of HIV and antiretrovirals should be systematically deepened among the general practitioners who are the main actors in the care of patients.

MG19 "It would be really important to train GPs because the majority of patients are diagnosed by GPs".

MG26 "That would be a good thing because many people still do not know the ARV molecules on the market and when to prescribe them to the patient".

MG27 "GPs should be the first line of defense against HIV. I therefore for the systematic training of all general practitioners on the management of HIV.

What would your training needs be for HIV?

GPs were unanimous about their training needs, which encompassed all stages of patient management, particularly antiretrovirals and the recurring problems of ARV resistance.

MG16 "Training for comprehensive care of patients; the problems related to the resistance of the different molecules".

MG21 "Continuing and Specific Training Needs on HIV/AIDS, Doing an Internship in a Center for the Care of HIV-Positive Patients".

MG22 "to be continually trained on the new recommendations of the new molecules available".
**What are new recommendations on HIV prevention and testing?**

Some doctors knew the new recommendations but found that they were not known enough, the others had not heard about them.

**MG**

"**Yes, but the disclosure is not well done**"

**MG**

"**no**"

GPs all wanted to be trained on patient management and to disclose recommendations on HIV prevention and testing.

**MG**

"**Train general practitioners on the screening, care and follow-up of patients on the HIV-positive organized continuing education and provide the appropriate equipment (screening test)**"

**MG**

"**Make available ARVs, widely distribute the document on new recommendations establish follow-up action on the implementation of these new recommendations**"

**MG**

"**Provide free rapid tests in all Congo health centers**"

**MG**

"**inform patients, systemic screening of all graduates, students and any jobseeker, in the administration**"

**IV. DISCUSSION**

**Discussion on the method**

The objective of the study was to explore the representations and practices of general practitioners in Brazzaville in HIV, the realization of a qualitative study, method of reference in this area, was the most suitable for this survey[25]. There are therefore very few studies on the subject even in France, where two studies can be cited in reference [26,27]. The individual interviews of the general practitioners allowed to identify the free expression of their opinion [25]. The number of physicians interviewed was low as 33 physician interviews were required to reach saturation of the data. The main bias of the method was the interviewer and his ability to carry out the interview was also an important point.

**Various doctors informed and concerned**

Our research questioning was oriented towards general practitioners. With regard to health, general practitioners play a role of legitimate mediators to the population. Faced with questions from any type of patient, these health professionals advise, inform, warn patients about diseases. And eventually these general practitioners decide on medical prescriptions or proper medical guidance. Secondly, general practitioners can be considered as hybrid actors. They have some expertise on issues related to maintaining health and pathogenesis while not being specialists themselves. In addition, they are also citizens more or less aware of the problems of prevention, care of patients. Considering the composite nature of the professional and civic roles and status of these practitioners, we sought to know more precisely what their knowledge of HIV was, how they were confronted, in their daily practice, with these questions and what were their degrees of information.

The surveys conducted are therefore a qualitative approach aimed at having a picture of HIV knowledge, but also the diversity of perceptions and attitudes about HIV and people living with HIV and not about HIV. The representativeness of opinions referred to a sample of practitioners who would himself be in the image of the entire profession.

**Prevention activity in general medicine**

Most general practitioners considered that prevention had an important place in general practice. Yet a sense of difficulty for a preventive approach on a daily basis was evident. The main difficulties were the time constraint, the lack of training, the lack of patient adherence to the prevention discourse.

**Role of the GP in the face of HIV**

GPs have the mission of caring for people, for primary health care, which includes not only participation in the HIV prevention and information effort, but also involvement in screening and testing. the announcement of a positive diagnosis and the therapeutic follow-up. In our study, they had a stronger representation of their role in HIV prevention and screening than in tracking seropositive patients.

**HIV prevention and testing practices**

In our study we note that the approach of prevention and the proposal of the HIV test are also associated with certain types of patients and at "key" moments and "targeted" audiences: during prenatal consultations, prenuptial, in front of an alarming clinical picture or at an increased sexual risk. Few doctors talked about prevention in other circumstances and their advice was confined to condom use. Doctors initiated the discussion on HIV.

**Prevention and the proposal for an HIV test**

Our study showed that general practitioners thought that addressing HIV prevention and testing was difficult, taking into account the difficulty of collecting information about patients' lives or sexual practices. Some physicians used the doctor-patient relationship, built on trust and confidentiality, to address issues of sexuality or HIV prevention.

Primary HIV prevention involves explaining the modes of infection, including sexual abuse, risky practices, means of protection, and possibly how to use them.

The prescription of the screening test may need to assess the risk of contamination, this can not be done without questioning patients on their orientation or their sexual practices. The approach to these questions is therefore naturally placed in the field of sexuality. Our study shows that the need for patient consent when prescribing HIV serology, and therefore the possibility of refusal, may also appear as a brake, from which physicians avoid the subject.

Our study is the first conducted on knowledge of HIV among general practitioners in Brazzaville, it is comprehensive including 35 general practitioners public with a high response rate of 50%. But our results need to be nuanced because they are statements and not observed practices, and there may be a difference between what is said and what is actually done by the doctors.

**Sick doctor's relationship holds back dialogue around HIV**

Doctors feared causing discomfort during conversations with the patient, a fear that was a drag on HIV education, prevention and testing. However, some doctors, on the other hand, did not have difficulty talking about sexuality or HIV with their patients.

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**New HIV testing recommendations**

Our study gave us an inventory of the knowledge of general practitioners in the city of Brazzaville, this study can help health authorities to highlight the shortcomings to consider to ensure the success of the national program to fight HIV/AIDS.

Updating general practitioners' knowledge of HIV requires both training and the implementation of new recommendations by the relevant health authorities. Most doctors are unaware of the country's HIV recommendations, which is already a barrier to updating knowledge and changing practices. The publication of a repository for general practitioners regarding new recommendations will help to better guide them. In fact, the most invested physicians will tend to have a more spontaneous prevention discourse and to offer their patients easy screening.

Our study shows that the majority of general practitioners were not trained on HIV, but they were interested in continuing education. These practitioners thought it was necessary to update or deepen their knowledge about HIV. It would still be necessary to divulge the information in order to interest as many doctors as possible. The degree to which physicians are trained on HIV is likely to influence how they approach the subject with their patients.

In our study not all doctors followed HIV-positive patients, but referred them. Following HIV patients is a factor that reinforces the doctor's representation of having to play a role in the fight against the epidemic.

In the light of our results, adequate initial training of general practitioners, both in theory and in practice, seems necessary, emphasizing the essential role of GP in HIV prevention. Continuing education is also to be developed by organizing training seminars on HIV / AIDS taking into account the needs of the MGs and the available means. An interest should be created for all general practitioners to have basic training in HIV prevention. This is very important for facilitating future prevention and screening actions as part of the national HIV program.

V. CONCLUSION

This survey shows the importance and the key role that general practitioners play in the care of people living with HIV in the Republic of Congo. Role that remains very little addressed in our country, whether clinical aspects, their practice or the role of referent in the prevention of HIV or even the care of people living with HIV at the same time local or national level.

The problem revealed the presence of a fairly high number of general practitioners with limited skills. To optimally utilize general practitioners, ongoing HIV training should be initiated to enhance their level of knowledge. The creation of a network of GPs to improve communication between health facilities and general practitioners would lead to better standards for outpatient HIV/AIDS care.

**ABBREVIATIONS**

CNLS: Conseil National de Lutte contre le VIH
HIV/AIDS: Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome

GPs: General practitioners
PLWA: People Living With HIV/AIDS

**DECLARATIONS**

**Ethics approval and consent to participate**

The administration of the institute wanted by this survey to evaluate the general practitioners in order to see how to improve the quality of their practice. This study is part of an evaluation of knowledge of HIV among general practitioners in Health Centers in Brazzaville. The administration validated the survey card. Participation in the study was on voluntary and unanimous basis. And participants were also briefed about the objectives of the survey and the anonymous nature of data. Formal approval for conducting the study was obtained from the head master of the IRSSA. Researchers informed the study participants about the objectives and the questionnaires were anonymous to ensure the confidentiality of data provided. General practitioners who decided to answer the questionnaire were considered as having given their consent to participate in the study.

**CONSENT TO PUBLISH**

I confirm that the data are freely available and can be published according to Infectious Disease of Poverty regulations without needing consent.

**AVAILABILITY OF DATA AND MATERIALS**

We did not obtain consent to share data obtained from the questionnaire and key informant interviews, however the datasets used and/or analysed during the current study available from the corresponding author on reasonable request.

**COMPETING INTERESTS**

The author declares that there is no competing interest.

**AUTHORS’ CONTRIBUTIONS**

GLLS conceived the idea for the study, data analysis, interpretation, and reporting stage of this manuscript, and have seen and approved the final version.

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