The pharmacist, a player in the prevention of the transmission of HIV/AIDS amongst intravenous drug users.

Module III

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1) Introduction

AIDS is one of the most devastating diseases of our times. Since the start of the epidemic, more than 65 million people have been infected with the HIV virus. Today it is main cause of mortality in sub-Saharan Africa. HIV has become one of the number one causes of death worldwide. At the end of 2003, it was estimated that 37,8 million people were living with HIV/AIDS, of which 17 million were men, 17 million were women and 3.3,8million were children under the age of 15 [1].

In a large number of countries, intravenous (IV) drug-users are particularly affected by the AIDS epidemic.
This document has been drafted in order to assist pharmacists when dealing with this exposed group of the population, in order that they may contribute effectively in preventing the spread of HIV/AIDS.

2) The context of intervention

2.1) Methods of spreading HIV/AIDS amongst the population of IV drug users

The HIV virus is transmitted amongst drug users when the equipment used for injecting or preparing the injection of the drug has previously or at the same time been used by an HIV-positive person. The likelihood of blood-borne contamination is particularly high for HIV and hepatitis B and C. The greater the prevalence of these infections, the greater the risk of transmitting it to specific sub-groups and the population at large.

The frequency of sharing needles/syringes (direct sharing) has been reported in several studies. It is between 19% and 54% [2]. These levels diminish considerably with the availability of sterile equipment and information being provided on the subject [3]. Sharing other pieces of injection equipment and filling the syringe from a single solution used by several people (indirect sharing) is also frequent (approximately 80%) in certain contexts [4]. Indirect sharing is the most difficult for the users to give up due to the cultural values associated with usage of the drug [5].

Sexual transmission of the HIV virus amongst IV drug users ("drug users" in the rest of the document) and their non-drug using sexual partners is also a determining factor in the transmission to the non-drug using population. The increase in the spread of the HIV virus amongst women leads to fears of the epidemic extending to children by vertical transmission. Finally, blood that is donated is not yet being systematically checked in certain countries.

This population group is very young (the majority are under thirty; many are between fifteen and twenty). Most drug users are sexually active and have one or more sexual partners who do not use drugs. Furthermore, prostitution is common amongst female drug addicts [6]. The frequency of homosexual relations is undoubtedly underestimated, within its cultural context. A very small number of drug users and their partners use condoms. A multi-centre study carried out by the WHO has demonstrated that only 4 to 20% of drug users used condoms with their usual partners and 10 to 37% with their occasional partners [2].

2.2) Epidemiology

High-risk injecting has had a significant impact on the development of the AIDS epidemic, not only amongst the population of IV drug users, but also amongst their sexual partners and children.

IV drug usage has become the main method of transmission in Eastern Europe (the Baltic countries, Russia and Ukraine) and in Central Asia (reaching major epidemic proportions in recent years), as well as in the East, South and South-East Asia (Thailand, Vietnam, Indonesia, India, China, Nepal, Bangladesh), the Pacific and the southern European countries. This method of transmission has also had a considerable impact on the development of the epidemics observed in North Africa (Morocco, Tunisia, Libya), in the Middle East (Iran), in Latin America and in North America [1].

In Europe, since the start of the epidemic and up to the year 2000, some 250,000 adults and adolescents were diagnosed as infected by the HIV/AIDS virus. Amongst them, 44.6% are drug-users, and 3.3% are heterosexuals contaminated through sex with a drug user. Amongst the 9,387 cases of AIDS observed amongst children, 12.9% are children whose mother is a drug addict [7].

In the United States, drug addiction is directly or indirectly the cause of more than one third of the cases of AIDS reported (transmission from the mother to the child or sexual transmission by a drug user to their partner) [8].

Injecting drugs is also a well-known risk factor for hepatitis C and its prevalence amongst drug users is between 40 and 90% [9,10]. Tuberculosis is also very common in this population group. It is often the first sign of AIDS amongst cases reported in Europe in 2000 [7].

The WHO data relating to the epidemiology of AIDS amongst drug users is available at the following Internet links:
http://www.who.int/hiv/pub/epidemiology/en/epiupdate2003_I_en.pdf
http://www.who.int/hiv/pub/epidemiology/en/epiupdate2003_II_en.pdf

2.3) Policies for reducing risks

Based on the findings that certain drug users are not always capable of being weaned off the drugs, strategies have been developed in order to reduce the morbidity and mortality linked with sexual and intravenous transmission of HIV amongst drug users. These strategies cover all interventions by players in the health system and social players. It is a case of minimising the negative effects of drug usage on public health. Reducing the risks consists in promoting risk-free sexual practices and safe methods of injection. These policies also aim to discourage illicit usage of drugs in general and in particular drugs that are injected. They are characterised by several principles:

- **a**· accepting the practices of drug usage with the minimum of risk ;
- **b**· recognising the different profiles of drug users, taking their own requirements into account and providing them with several additional alternatives;
- **c**· recognising that the situation often gives rise to marginalisation and stigmatisation, providing an additional difficulty.

Risk reduction strategies consider the drug user to be a person who, on the one hand, is capable of choosing amongst several options for reducing the risks associated with drug usage and on the other hand, making choices that may change over time. They involve prioritising decisions, with priority given to preventing the transmission of the HIV virus. In fact, certain drug users are not ready or are unable to stop taking drugs despite the preventive aims. This prioritisation provides a useful framework when developing an AIDS prevention programme. The choices provided to drug users are as follows:

- begin a substitution treatment, if possible,
- move from administration by injection to administration without injections,
- reduce the frequency of taking the drug,
- use sterile injection equipment for each injection,
- if sterile equipment is not available, not share syringes or other equipment (filters, receptacles and water),
- reduce the frequency of sharing and the number of partners involved in the sharing.

To be effective, in other words to reduce the transmission of AIDS by drug users, the risk reduction strategies must include [9]:

- training programmes, particularly in -ex users;
- promoting the use of sterile equipment for each injection;

- increased availability of the equipment;
- developing legislation to increase access to the sterile injection equipment;
- increasing the availability and accessibility to care;
- increasing access to primary care in particular through services tailored for drug addicts;
- research activities in conjunction with the community in question.

In several countries, drug users are aware that the direct sharing of needles, or the sharing of injection equipment, increases the risk of transmission of the HIV virus and other blood-borne infections such as hepatitis C. Meanwhile, reusing and sharing syringes or needles as well as other equipment, may primarily be due to a shortage of sterile injection equipment or the fact that there are legal sanctions that are applicable, if found to be in possession of injecting equipment.
Since the beginning of the 1980s, several countries have adopted measures to increase the availability of sterile equipment (needles and syringes).

3) Services developed by pharmacists towards the prevention of HIV/AIDS

There are numerous opportunities provided to the pharmacist, in current practice, to intervene amongst drug users and contribute towards preventing the transmission of AIDS in this population group. The pharmacy is in fact the preferred location for information and advice. It is also where drug users may purchase their sterile injection equipment and increase awareness on risk-free injection practices. Finally, certain drug addicts that are interested may be offered guidance with regards to treating their dependency.

3.1) The pharmacy, a location for advice and information

Amongst several services that may be offered in a pharmacy, there is very specific advice regarding risk-reduction drug usage as well as on sexual behaviour that contributes towards the prevention of AIDS and other blood-borne or sexually transmitted infections. It is important for the pharmacist to be able to identify the opportunities that allow communication on these subjects. The pharmacist may also supply written information that the patients can take home.

Advice aiming at increasing the safety of injection practices
The main messages given out by pharmacists, with a view to reducing risks amongst drug users are as follows:

Syringes and needles

- Never share injecting equipment (needles, syringes, spoon, filter, cotton wool). The HIV virus may be transmitted by sharing injecting equipment. The hepatitis C virus is transmitted when sharing filters, equipment that has been heated up or water and in case of a lack of hygiene in general.
- Always use a new syringe and a new needle for each injection. In addition to the risk of infection, used needles are blunt and may damage the vein.
- Use sterile injecting equipment and the finest needles available.
- Only use syringes dispensed from safe locations (for example, pharmacies).
- The powder must be mixed with clean water. The solution should always be filtered before it is injected.
- Never reuse a syringe, needle or dirty equipment.

Injections

- Use other routes of administration rather than injections.
- Do not inject tablets as these contain substances that do not dissolve and cause increased risks of embolism.
- Wash your hands and disinfect your skin correctly before and after each injection.
- Change the injection site regularly.
- The direction of the injection should be the same as your blood flow.
- Avoid injections in infected areas.
- Do not inject into swollen limbs or into veins that appear to be dilated.
- Avoid the neck, groin, chest, feet, penis and veins on your hands.
- After use, place the needle in the syringe and then the syringe in a container in order to avoid any risk of being pricked by the needle (drinks cans may be used, crush them in order to prevent any equipment within being released into the household waste).

- Overdoses depend upon individual tolerance, the purity of the substance, the associated use of other substances, and the user's state of health. Overdoses may be prevented by avoiding injecting heroine after having used another drug or by avoiding injecting a high dose of heroin after a period of abstinence.

Sexual relations

- Use a condom correctly when having sex in order to prevent the sexual transmission of the HIV virus.
- Only use water-based lubricants. Oily lubricants may affect the condom, rendering it porous to the HIV virus.
- Vaccinate against hepatitis A and B.

Guidance regarding screening

Recommendations may be provided at the pharmacy by the pharmacist, in order to encourage users who have been exposed to risky practices to consult a physician in order to screen for sexually-transmitted or blood-borne infections (HIV/AIDS, hepatitis B and C, other sexually-transmitted diseases), and tuberculosis.

The relationships established at the pharmacy between patients and pharmacists must be based on confidentiality. In order to facilitate this relationship, the pharmacist must be ready to listen and avoid any coercive attitudes or judgemental behaviour. He must systematically ensure that confidentiality and anonymity are maintained.

3.2) Providing access to sterile injection equipment

One of the aims of the interventions in favour of reducing the risks is to increase the drug user's accessibility to sterile syringes. Pharmacists may provide sterile equipment in the following ways:

- Participation in structured exchange programmes of syringes, with free supply of kits in exchange for used equipment.
- The supply of information on reducing risks, on treatments and specialist treatment centres for drug addicts.
- By selling syringes or kits combining different equipment (without a doctor's prescription and sometimes at a reduced cost).
- Free distribution of syringes with our without the collection of used equipment (collection points for used equipment may be placed outside the pharmacy).

The aim of the syringe exchange is not only to facilitate access to sterile injection equipment in order to restrict the sharing or reuse of this equipment, but also to prevent used equipment from being distributed in the household waste due to the risks involved.

In certain countries, such as the U.K., France and Spain, syringe exchange programmes are promoted using a logo of two arrows facing opposite directions. This logo is easily recognisable by drug users.

As an example, the equipment most often provided under these programmes is [10,11]:

- a range of syringes and needles
- sterile water
- cotton wool

- citric acid
- ascorbic acid
- sterile cooker or cup
- sterile filters
- containers for the needles
- bleach, chlorinated water
- naloxone
- tourniquets
- female and male condoms
- water-based lubricants
- spermicides
- brochures with information and methods of prevention.

Some syringe exchange programmes in the pharmacy provide kits containing one or two syringes, cotton-wool, sterile water and one or two condoms. Others supply the same equipment in larger quantities (10 to 20 syringes) or allow the person to make the kit up themselves.
The sterile cooker or cup and the sterile filter were introduced in France in order to prevent the transmission of hepatitis C.
In countries where heroin is bought in the street in the form of diamorphine hydrochloride, it is not necessary to use an acid to dissolve the drug to prepare it for injection. In other countries (especially in Western Europe), only the basic form is available. This form does not dissolve in water. It must therefore be dissolved by adding an acid and then heating it up. The easiest acids to obtain are citric and ascorbic acid. Other acids may, nevertheless, be used. It is important for the pharmacist to check that the acid being used, and the quantity, is appropriate.

The programmes, which have restrictive regulations, limit drug users' access to sterile equipment. From a public health point of view, it is recommended to facilitate this access, even if used equipment is not brought back. It is also advisable to inform and advise the users to use containers that are suitable for their used equipment.
The pharmacies that collect the used syringes use containers where the drug users put their equipment in themselves. Using this method, the staff at the pharmacy does not handle the equipment. A written protocol must be provided in the event of an injury.

3.3) Contributions of the pharmacist towards opiate-substitute treatments

By encouraging drug users to use opiate substitute treatments, pharmacists contribute towards reducing the population of drug users using high-risk practices.
The pharmacy is a place where drug users should not be stigmatised. It is a neutral place, integrated in and close to the way of life of the community. This is where drug users can find out information on treatment and care programmes.
Treatments based on methadone or buprenorphine mean that the patient no longer has to have recourse to illegal drugs and does not have to inject. It allows the patient to stabilise himself. Implementing this type of treatment requires close collaboration between the prescribing physician and the pharmacist.
In some countries, pharmacists prepare the medication in the form of oral solutions or tablets. These are dispensed on a daily basis. They regularly draw up a schedule for dispensing and providing patient support. When the patients have stabilised, the doses may be taken home for the weekend or even for

longer periods. The prescribed medication may be administered in the pharmacy in a private area under the supervision of the pharmacist or a member of his team. Furthermore, the staff at the pharmacy may have a discussion with the patient, listen to him and give him advice and information on reducing the risks. They may also encourage the patient to change their behaviour.
Not all drug users can benefit from substitute treatments available at the pharmacy. The behaviour of some patients requires handling in a particular way by other healthcare professionals.

3.4) Directing individuals towards treatment centres and social services

As mentioned above, pharmacists are the first and sometimes the only healthcare professionals that a drug user can contact easily. The drug user may, thanks to this first point of contact, benefit from guidance in terms of treatment or advice regarding the HIV virus and its screening and finally advice to benefit from treatment for related pathologies, such as hepatitis, tuberculosis and sexually-transmitted diseases.
The pharmacist may also supply contact information for specialist social services or psychiatrists.
It is therefore important that the pharmacist be well-informed about the resources available for taking care of the drug users.
Directing a patient towards social services is not limited to providing him with an address. The various healthcare professionals must form a network of care.

4) Conditions for success

4.1) Coordination with other institutions

The AIDS prevention programmes set up for drug users in pharmacies must become part of a general public health policy in the fight against the AIDS epidemic.
The professional pharmaceutical organisations may usefully take part in implementing these strategies on a national level.
Pharmacies wishing to provide AIDS prevention services to drug users generally form a group identified by the professional pharmaceutical organisations. The latter generally provide the protocols and recommendations regarding the distribution of sterile equipment and the collection of used equipment. They also publish brochures and written information to be passed on to the clients by pharmacists.

4.2) Restrictions on the development of these services

The active participation of pharmacists in prevention programmes directed at drug users has given rise to new difficulties. The first is the result of the potentially negative impact that the presence of drug users in the pharmacy might have on the business as this population group can be rejected by the customers. The fear of violent behaviour is another obstacle.

A study carried out among 380 pharmacists involved in a syringe exchange programme in southern England demonstrated a high frequency of widespread theft of displays, as well as more serious problems with violent behaviour. As for the question posed regarding the effects of the syringe exchange programmes on the clients, nearly two thirds of respondents believed that the clients were not aware that these services existed.

Negative reactions from shops nearby may also restrict the progress of these activities.
Restrictions of a regulatory nature may also make it difficult for pharmacists to implement these activities. In certain countries, such as the United States, the law restricts the possession, the distribution and the sale of injecting equipment as well as the possession of substitute treatments for drug users.

In France, removing these regulatory barriers in the 1990s led to an increase in the use of sterile injection equipment and a reduction in the sharing of equipment [12]. In the United Kingdom, recommended codes of conduct issued by the Royal Pharmaceutical Society prevented pharmacists from selling syringes until the end of the 1980s.

4.3) Evaluation of services provided

The evaluation of the proposed services is often difficult to implement within the context of the pharmacy. This evaluation is nevertheless the only way of knowing whether the objectives have been achieved or not. It also allows one to identify new requirements as well as new trends.

The main indicators used are as follows:

- The number of different users
- Their socio-demographic and behavioural profile

Within the framework of syringe exchange programmes:

- The unit quantity of sterile injection equipment distributed
- The return rate for used syringes
- The rate for revisiting treatment centres or social services
- The nature of the information requested
- The nature of the drugs used, the routes of administration, the frequency of the injections

Within the framework of the substitute treatments:

- The mean daily doses
- The period during which the patient has received a treatment
- The number of patients who have stopped themselves their treatment
- Forced or voluntary abandoning and their reasons (example: exclusion due to positive urine test results for opiates or other illegal drugs)
- Knowledge of the medication administered and changes in the doses over time
- Limiting doses
- Side effects
- Other associated treatments, alcohol consumption
- State of health and social aspects (work, environment, family...)
- Absenteeism (abandoning daily doses)
- Incidents that have arisen

These indicators must be notified every day for each named patient with:

- An identification code (e.g.: a personal number, initials or surname)
- Age
- Sex
- Subsequent referral to a treatment centre or social services

The standardisation of the indicators may allow for comparisons between countries. The PESESUD 2 European project has developed software in order to facilitate standardised data collection [11].

4.4) Training of the team

Pharmacists who wish to carry out AIDS prevention activities for drug users must have sufficient information on drug addiction and on the state of health of these population groups. The main areas to be covered within the framework of the training are as follows:

- Epidemiology of AIDS, hepatitis C and drug addiction;
- Risk reduction policy;
- Role of social services and treatment centres;
- Knowledge regarding the abuse of medicinal products: types of medication used, routes of administration, method of preparing mixtures, frequency of use, overdose, risk behaviour (sharing equipment...), hygiene, habits, methods of disinfecting injection equipment, risky sexual behaviour, preventive action;

- Information on AIDS, hepatitis B and C, sexually-transmitted diseases, preventive measures, advice on screening, methods of treatment;
- Regulatory intervention framework (classification of medications, conditions for storage, methods of prescribing, labelling, destroying, registering...);
- Communication skills for establishing a relationship based on trust with drug users;
- Handling confidentiality and client anonymity;
- Professional practices limiting the risks, disinfection, wounds, hygiene, handling used equipment, as well as, resolving conflicts and difficulties with clients;
- Practical aspects in implementing prevention services for drug users.

5) Conclusion

Pharmacists have a major role to play in preventing the transmission of the HIV virus amongst the population of drug users. As first-line healthcare professionals, pharmacists are frequently the only regular "healthcare" contact in this population group.
The advantages of pharmacists are its proximity and its accessibility due to long opening hours and frequently good geographical cover.
The pharmacy is a favoured location for giving out information and advice on injection practices, sexual conduct, blood-borne infections, possible screening and treatments available. Furthermore, the pharmacist can provide drug addicts with the necessary sterile injection equipment, organise reimbursement within the framework of replacement treatments for opiates, and may refer these patients towards the appropriate services.
Sometimes there are restrictions in the participation of pharmacists in HIV prevention programmes within the specific population group. These obstacles can be overcome if public authorities and professional organisations lend their support to these actions, in combination with running training programmes.

Within the current context of the HIV/AIDS epidemic, one must encourage the participation of healthcare professionals in the programmes for treating drug addicts, encourage network activities; multidisciplinarity is essential, as the complexity of social, educational, psychological and physical structures is considerable and requires the coordinated alliance of physicians, pharmacists, relatives, carers, associations and mediators.
Winning the confidence of these patients, men and women who are often very young, is a challenge to be accepted and an essential condition for access to care and reintegration within the social and family group. This mobilisation is vital and urgent for the future. Not only are millions of people infected by HIV/AIDS worldwide, but also hundreds of millions of others are under threat of the irresponsible transmission of this deadly virus.

6) List of abbreviations

AIDS: acquired human immunodeficiency syndrome

FIP: International Pharmaceutical Federation

HIV: human immunodeficiency virus

IV: intravenous

PESESUD: syringe exchange programme in southern European countries

WHO: World Health Organisation.

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