

Doping substances

Introductory remarks

This chapter deals with the question of psychoactive drug consumption to improve one's performance, whether it's concerning doping in the strictest sense of doping, i.e. use of prohibited drugs or procedures, mostly by sportsmen (see chapter relative to legal framework), or, in its larger sense, of taking any drug the user thinks might improve performances.

Because of the broadness of this field of study, compared to the other developed studies of consumption in this report, entry by substance is not the most adapted here, because the doping behaviours are characterized, above all, by a practice (Researched effects or personal reasons characterise doping: increasing one's capacities, performances, etc.). Thus, in terms of drugs, other than those pertaining to the list of prohibited substances defined by the Youth and Sports Ministry⁽¹⁾, it is necessary to take into account certain narcotics, psychotropic drugs, and also common medications, and abundantly consumed substances (coffee), etc.

The position adopted here thus navigates between these various notions (sports doping, consumption to improve one's performances, and consumption of prohibited doping substances, etc.). In this chapter, variety and ambiguity of definitions is considered. Finally the mobilised sources shape up the maintained approach.

Generally speaking, the mass expertise on doping and sports practicing achieved in 1998, underlined the lack of epidemiological data necessary for measuring the phenomenon of doping in France [CNRS (, 1998]. The studies carried out since seem to focus, essentially, on the links between sports practicing and use of drugs⁽²⁾. This is particularly what the European seminar, organized in December 2000, has revealed⁽³⁾. This chapter concerns the image of this field of study that is still under construction, and finally, doping, as tackled by the media through (isolated) case recalling of professional sportsmen, is minimally discussed here.

¹ *List of French specialty medical products containing prohibited substances and/or subjected to certain restrictions within the framework of the regulation against doping.*

² See : Aquatias *et al.*, 1999 ; Beck *et al.*, 2001 ; Choquet *et al.*, 1998 ; Lowenstein *et al.*, 2000.

³ European seminar « Sports Practicing for young people and risk behaviours » organised within the framework of the French presidency on the 5th and 6th of December 2000 (2001).

Reference points

In this field, more than any other, the limited numbers of available data make it impossible to establish an undisputable statement. Only some fragmented elements can be presented. Putting them into perspective does not make it possible to file a precise report on the phenomenon of doping in France.

Consumption

- In adults, 6% took at least one substance to improve their physical or intellectual performances during the past twelve months. Mainly, they are common prescribed drugs, like vitamins, and not prohibited drugs indicated on the list, to be exact.
- In adult amateur sportsman, the consumption of doping substances does not seem to be totally marginal: between 3 and 10% according to studies.
- In young people, 11% of school students tried, at least once in their lives, a drug to improve physical or intellectual performances. Here it is a matter of common prescribed drugs, rather than doping substances. These consumptions concern boys more than girls. They are related to sports practicing and depend on the nature of this sports activity; track and field sports and combat sports are particularly concerned.

Anti-doping fight

- The number of anti-doping tests increased significantly these last few years (9,500 in 2000). The presence of doping substances has increased in 3.7% of the cases. This figure is stable during the last few years. The main substances detected are cannabinoids, salbutamol (Ventoline®), corticosteroids and stimulating agents. Solely available, this indicator is, nevertheless, insufficient to track the evolution of the doping behavioural significances.

Drug consumptions in order to improve performances

The consumption of psychoactive substances in the French population, for the purpose of improving performances, is described throughout the results of the revealing survey made on samples representing young or adult populations. In adults, the uses considered here are recent use (to have consumed a drug to improve performances during the last twelve months) and, in adolescents, experimentation (to have consumed a drug to improve performances during life).

Consumption by the general adult population

Among the 15-75-year-olds, 5.9 % took at least one drug to improve physical or intellectual performances during the last twelve months. This behaviour is slightly more female-oriented (6.5% as opposed to 5.3 in men). As is clear from the investigations, seeking improvement in performances reveals contrasting behaviours, as indicated in the following table, but corresponds especially to the use of vitamins [3].

Frequency of use, during the past twelve months, of drugs consumed to improve performances in a general adult population in 2000

(in%)

During the past twelve months, have you consumed drugs to improve your results or your physical or intellectual performances?

Vitamins	2.9
Medications for the memory	0.7
Nutrition complements	0.8
Magnesium-zinc-phosphorous	0.7
Phytotherapy and homeopathy	0.3
Anti-asthma agents	0.3
Anti pain	0.2
Amphetamines	0.1
Other*	0.2
Unidentified substances	0.6
Total	5.9

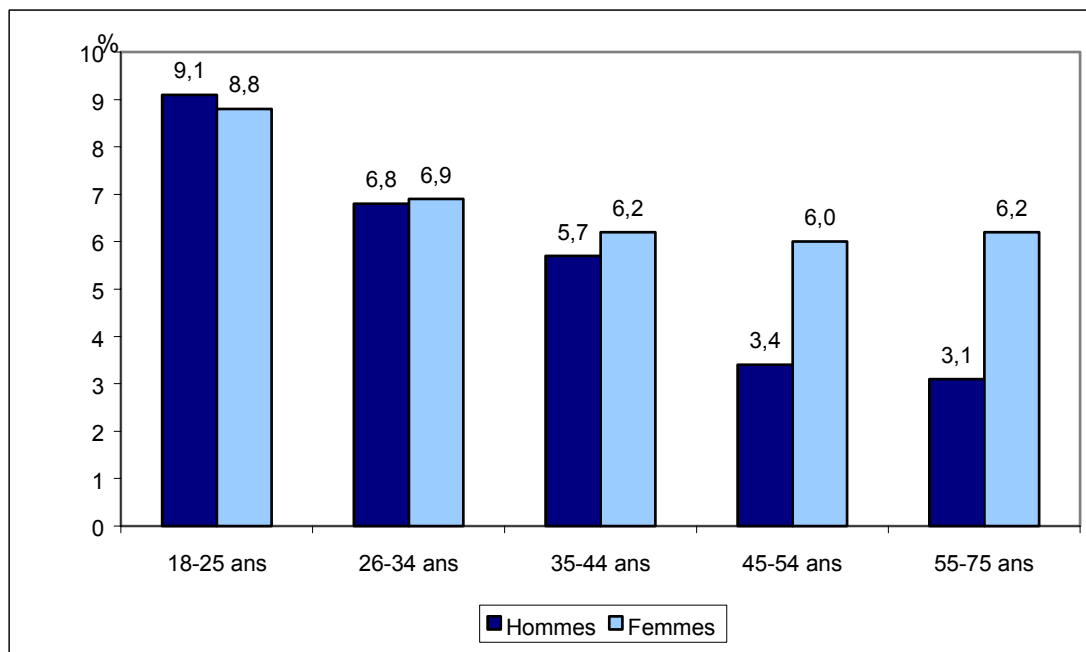
NB : it was possible to list many drugs

** This category contains narcotics (n = 6), doping substances (n = 10) and miscellaneous drugs (n = 6).*

Source : Health barometer 2000, CFES (Comité français d'éducation pour la santé: French Centre for Health Education), exploitation OFDT (Observatoire français des drogues et des toxicomanies: French Observatory of Drugs and Drug Addiction)

If the prevalence for men, during the past twelve months, decreases continuously with age, it is not the case for women for whom the prevalence remains stable between 26 and 75 years of age [3].

Frequency of use, during the past twelve months, of drugs consumed to improve performances in a general adult population in 2000, by sex and age {381a}



Source : Health barometer 2000, CFES (Comité français d'éducation pour la santé: French Centre for Health Education), exploitation OFDT (Observatoire français des drogues et des toxicomanies: French Observatory of Drugs and Drug Addiction)

Consumption among adult sportsmen

Very few surveys were conducted directly relating to sportsmen, amateurs or professionals. The topic is considered highly delicate, because doping is against sports ethics.

A recent synthesis of the existing epidemiological data on this topic yielded that the percentage of amateur adult sportsmen, announcing their consumption of doping substances for the purpose of improving their performances, varies between 3.1 and 9.5%, according to two French studies (Laure, 2000b), one of which pertains to approximately 2000 amateur sportsman in Lorraine, questioned in 1996 (Middleton, 1999).

This study equally shows that it is especially the competitors who use these drugs (10.8% amongst them), but those participating in leisure sports don't abstain, either (4.8%). Resorting to doping is related to the level of the sports competition: 17.5% of high-level athletes announce resorting to doping as opposed to 10.3% of sportsmen from lower levels. Finally, 5.8% of graduate sports teachers in Lorraine (1994-1997) confessed doping during the past twelve months averaging 1 to 6 times (30% further speculate that without doping, a sportsman has no chance to succeed and that 10% of doping medications helps and is harmless to health). The main drugs used for doping are the stimulating agents (44.9% substances listed), narcotics (27.5), corticosteroids (11.6%), or other substances (16%) (Laure, 2000a).

Consumption by adolescents

At the end of adolescence, 4.5% of young people questioned have already taken a drug to improve physical or sporting performances during their lifetimes. For corticosteroids, anabolic steroids, and other hormones, the observed prevalence is very weak [8].

Frequency of experimenting with a drug to improve physical or sporting performances in young people at the end of the adolescence in 2000

(in%)

In the course of your life, have you taken before a drug to improve your physical or sporting performances?

Stimulating agents (amphetamines, cocaine, a high dosage of caffeine)	1.5
Corticosteroids	0.3
Anabolic steroids	0.3
Other hormones	0.2
Other	3.2
Total (all substances mixed)	4.5

Source : ESCAPAD 2000, OFDT (Observatoire français des drogues et des toxicomanies: French Observatory of Drugs and Drug Addiction)

This prevalence varies according to sex and age: at the age of 17, it rates 2.1% for girls, and 4.7% for boys. At the age of 18, it reaches 5.6%, and 6.1% at the age of 19. It is also more significant for adolescents who have an intense extra-curricular sports activity, since it reaches 7.8% for those who participate in more than eight hours of sports weekly. Regarding the various categories of disciplines, among the 4.0% of those surveyed who practice musculature (or body-building), 10.2% have already taken a doping substance (as opposed to 4.3% for the rest of those questioned), this very significant relation remains valid for girls as for boys [8].

Among young school students, 0.7% reveal having already consumed anabolic steroids and 0.3% have consumed anabolic steroids more than five times during their lifetimes. The prevalence concerns the boys (1.1%) more than the girls (0.4%), but increases with age. The weekly sports practicing of students who have already taken anabolic steroids is 6.9 hours. One in five reveals not to have practiced sports in the course of the year [7].

For the question: 'During your lifetime, have you ever taken a drug to improve your physical, sporting or intellectual performances', 11.0% of young school students named at least one drug, but 5.0% did not specify which drug. The drugs mentioned the most are vitamins.

Frequency of experimenting with drugs to improve physical, sports, or intellectual performances in young school students in 1999

(in%)

During your lifetime, have you ever taken a drug to improve your physical or sporting performances?

Vitamins	2.6
Medications for the memory	1.0
Amphetamines and other excitant	0.8
Proteins and energising beverages	0.7
Narcotics and alcohol	0.3
Magnesium-zinc-phosphorous	0.3
Phytotherapy and homeopathy	0.3
Peptide hormones	0.1
Other	0.4
Not specified	5.0
Total	11.0

Categories that concern at least 0.15 of the students has been included in the category 'Other'. This is the case of benzodiazepines, corticosteroids and betablockers.

Source : ESPAD 1999 ; INSERM (Institut national de la santé et de la recherche médicale: National Institute for Health and Medical Research)/OFDT (Observatoire français des drogues et des toxicomanies: French Observatory of Drugs and Drug Addiction)/MENRT

These different categories of drugs, owing to the diverse profiles of consumption, can be grouped into two principal types: Common prescribed drugs or socially integrated (a group that includes vitamins, medications for the memory, proteins and energising beverages, magnesium/zinc/phosphorous, phytotherapy and homeopathy and concerns 4.5% of the students), and drugs classified on the list of prohibited doping substances and methods subjected to certain restrictions (a group that includes amphetamines and other excitant, narcotics and alcohol, peptide hormones, benzodiazepines, corticosteroids and betablockers and concerns 1.% of the students), the category 'Other', which is very heterogeneous, has been left aside.

Frequency of experimenting with common prescribed drugs 'doping' substances, according to the profile of young school students in 1999

(in%)

	Common prescribed drugs	'doping' substances
Boy	4.5	2.0
Girl	4.5 (ns)	0.8 (2)
14 years old	4.3	1.4
15 years old	3.7	0.9
16 years old	3.4	1.3
17 years old	4.1	1.4
18 years old	6.2	1.5
19 years old	5.4 (2)	1.7 (ns)
Cannabis use: yes	4.6	2.6
no	4.4 (ns)	0.7 (2)
Regular use of alcohol: yes	4.6	4.3
no	4.5 (ns)	1.0 (2)
Cannabis regular use: yes	4.2	4.8
no	4.6 (ns)	1.1 (2)
Regular use of tobacco: yes	3.6	2.3
no	4.9 (1)	1.0 (2)
Practicing sports: yes	5.3	1.6
no	3.2 (2)	0.9 (2)

ns, (1), (2) : respectively, non-significant, significant with threshold 0.01 and significant with the threshold 0.001.

Source : ESPAD 1999 ; INSERM (Institut national de la santé et de la recherche médicale: National Institute for Health and Medical Research)/OFDT (Observatoire français des drogues et des toxicomanies: French Observatory of Drugs and Drug Addiction)/MENRT

Common prescribed or socially integrated drugs are connected with older individuals, but equally among girls and boys. The use of cannabis (experimenting or regular) and of alcohol seems without incidence, contrary to the regular use of tobacco that turns out to be negatively correlated. Practicing sports and, particularly, joining a club, is a factor that determines the consumption of this type of drug.

For drugs classified on the list of prohibited doping substances and methods subjected to certain restrictions, the profile of students having consumed such substances during their lifetimes is different than the preceding profile: this behaviour is rather masculine, but does not differ by age, nor by the school year results. It is well linked to practicing sports and to the use of all observed psychoactive substances, including the regular use of tobacco [7].

An upcoming study concentrates on the link between taking drugs and a classification in six groups, created from the intensity of practicing of each group of discipline and between the global weekly duration (Faugeron *et al.*, 2002).

Frequency of experimenting with a drug to improve performances according to the profile of young sportsmen school students in 1999

(in%)

	Common drugs	prescribed	'Doping' substances
Sports practicing weak or nil (n = 4 994)	3.5		0.8
Regular practicing of dance and gymnastics (n = 1 182)	5.3		0.7
Recreational practicing of individual sports (n = 2 481)	6.3		1.2
Intensive practicing of collective sports (n = 2 207)	4.1		1.8
Intensive practicing of martial arts (n = 499)	5.8		1.8
Intensive practicing of track and field sports and combat sports (n = 507)	8.9		3.0

Source: ESPAD 1999; INSERM (Institut national de la santé et de la recherche médicale: National Institute for Health and Medical Research)/OFDT (Observatoire français des drogues et des toxicomanies: French Observatory of Drugs and Drug Addiction)/MENRT

Having recourse to this typology, globally confirms the link between the intensity of sports practicing and consumption of drugs to improve performances, except for intensive mass sports practicing, which leads to a lower consumption of common prescribed or socially integrated drugs. Overall, intensive practicing (the three final classes) favours taking drugs of the doping type, and particularly those for the track and field and combat sports (pupils of this class are masculine in majority), showing a tie to a specific body.

To put it into perspective, the toll-free number 'Listen Doping', instituted on the 24th of November 1998, recorded, in its April 1999 report, 2,640 calls received. Three quarters of the callers were men, and 44% were adolescents or preadolescents. They were divided as follows: sportsmen (45%), supporters (10%), trainers (7%), managers (5%), and others (33%). Requests are principally made for *creatine*, a drug of which consumption does not appear in the revealing survey.

Frequency of drugs evoked at the time of 'Listen Doping' calls in 1999

(in%)

Creatine	45
Cannabis	24
Energetic drugs, amphetamines	15
Anabolic steroids	10
Cocaine	8
Medications	4

Source : 'Listen Doping' 1999

In the second report of the toll-free number 'Listen Doping' on the 31st of October 1999, the main sports mentioned were cycling (45%), musculature and weight lifting (28%), athletics (18%) and football (9%). In the ESPAD survey, cycling and athletics seem to be linked to taking drugs, but not necessarily strongly linked to doping substances. As for boxing, musculature and weight lifting, same as for the football and rugby, the link to consumption of doping substances is more evident, but the intensity of practicing these mass sports does not appear to be linked to taking common prescribed drugs. 'Institutional' approaches are then complementary to the 'general population' approaches.

Frequency of the disciplines mentioned on the line 'Listen Doping' according to the use of common prescribed drugs and 'doping' substances in 1999
(in%)

	Common prescribed drugs	'Doping' substances
Cycling/athletics:		
no	3.7	1.0
yes, from time-to-time	5.3	1.5
yes, regularly	6.7	2.0
yes, in competition	7.4 (2)	2.7 (1)
Boxing/weight lifting/musculature:		
no	4.2	1.1
yes, from time-to-time	6.7	3.3
yes, regularly	7.7	2.2
yes, in competition	5.1 (2)	6.6 (2)
Football/rugby:		
no	4.5	0.9
yes, from time-to-time	4.8	1.6
yes, regularly	4.3	1.6
yes, in competition	3.8 (ns)	3.3 (2)

ns, (1), (2) : respectively, non-significant, significant with threshold of 0.01 and significant with the threshold of 0.001.

Source : ESPAD 1999 ; INSERM (Institut national de la santé et de la recherche médicale: National Institute for Health and Medical Research)/OFDT (Observatoire français des drogues et des toxicomanies: French Observatory of Drugs and Drug Addiction)/MENRT

On the other hand, in a survey in Midi-Pyrénées, 7.1% of the adolescents say they have taken a doping substance or 'maybe doping', which represents a prevalence of 8.5% among sportsmen. This behaviour is more masculine (10.65 against 3.8% in girls) and progresses with age in boys (7.9 between those of ages 13-15 and 15.6% between those of ages 18-20) (Pillard *et al.*, 2000).

Opinions regarding doping

When asking 15-75-year-old people about their fears to try a doping substance, only once, only 7.0% will not be afraid at all, and 10.6% probably won't have fears. This level is the same for amphetamines, creating less fear than all other illicit drugs except cannabis, but definitely more than psychotropic medications, tobacco or alcohol [9].

An IFOP/Youth and Sports Ministry survey asked the opinion of the French people, 970 adults, in November 1998, regarding the measures adopted in the framework of the anti-doping fight.

Proportion of opinions in favour of few propositions on doping

(in%)

Are you in favour of the following measures :	Yes
The fight must be led on the European and universal level	86
An obligatory medical follow up must be implemented for high level sportsmen	84
Judiciary pursuits of purveyors must be reinforced	76
An independent council must be created	73
The physician must be forced to forbid a sportsman who uses doping substances from practicing	72
Sanctions against doped sportsmen must be extended	65

Source : IFOP/Youth and Sports Ministry, 1998

Questions about doping were also posed to 503 adolescents, 11-15-year-olds, during a CSA survey. This survey was conducted through face-to-face discussions from the 21st of October till the 24th 1998. Young adolescents were relatively tolerant to sportsmen who dope, and about a quarter of them said they were ready to try a drug to improve their performances.

Answer frequencies to the question: What will be your attitude if you hear about a substance that will allow you to improve your sport?

(in%)

I would not take it no matter what	73
I would take it if I was certain it is not dangerous	13
I would try it at least once to see	10
Don't know	4

n = 359 regular sports practitioners

Source : CSA ; 1998

Answer frequencies to the question: What would be your reaction if it were proven that one of your favourite sportsmen was taking doping substances?

(in%)

I would be disappointed; I would stop admiring him	66
I would understand a great effort is asked of them so that they have to take some substances to make it	27
Don't know	7

Source : CSQ ; 1998

Answer frequencies to the question: To you, a sportsman who dopes, is:

(in%)

A cheater	47
A professional who wants to be even better	32
A victim	17
Don't know	4

Source : CSA ; 1998

Answer frequencies to the question: According to you, what should be the best regulation regarding doping?

(in%)

Completely prohibit all doping substances	52
Prohibit only drugs that could be dangerous to the health of sportsmen	33
Inform the sportsmen about the dangers of doping substances and leave them free to choose	14
Don't know	1

Source : CSA ; 1998

Health and social consequences of the use of doping substances

Taking into consideration the health and social care responsibilities for the users of doping substances, is a field that remains, as yet, inadequately documented. To explain it, many non-exclusive statements could be set forward:

- These drug users are not distinguished from those being taking care of.
- If they are being taking care of, it remains confidential.
- The specialised arrangements for taking care of them is not yet developed.

The data presented comes out from punctual investigation and is usually local. It furnishes the first elements of awareness, but cannot be extrapolated. As for the morbidity of death related to the use of doping products, other than the anecdotal cases told in the press, the scope of the information is fragmented, and if the existence of encountered risks seems undeniable, they are not yet quantified in a scientific manner (Gallien, 1998).

Amplitude and characteristics of the care

The creation of care agencies to fight against doping is recent (it was decided by the legislator in 1999.) and care agencies do not offer, for the moment, data on the responsibilities toward doping. This is the reason that the most active persons are still general practitioners, pharmacists, and centres specialised in drug addiction care (CSST: Drug Addiction Treatment Centre).

According to two French studies, conducted on 300 professionals, one-third were self-employed general practitioners (Laure, 2000a, p. 261), and one-third of the drugstore pharmacists (Laure, 2000a, p. 263) said they were confronted with one demand related to sports doping in the past twelve months.

To physicians, the clients in concern were either confirmed consumers of prohibited substances, persons seeking advise for future use, or persons requesting a prescription (Laure, 2000a, p. 261). The pharmacists' clients requested either information regarding a drug, or delivery of the drug itself. Most of the time, requests concerned anabolic steroids (Laure, 2000a, p. 263).

In 1997, an analysis of the clients of two CSSTs (Drug Addiction Treatment Centre) revealed the presence of many sportsmen among consumers, of heroin in particular. Some of them confessed consuming heroin during the period of practicing sports, sometimes along with doping substances (amphetamines, anabolic steroids). It is possible that word-of-mouth amplified the phenomenon in these centres; stemming from, of

course, former sportsmen (CRIPS (Centre régional d'information et de prévention du Sida: Regional Information and Prevention Centre for AIDS); Toxivar, 1997).

We can equally mention the help system, 'Listen Doping', from which results were presented earlier.

Anti-doping fight

The French legislation concerning the fight against doping, distinguishes between sportsmen, users of doping substances, and purveyors of these substances. The first encounter of sports sanctions comes following the disciplinary procedures conducted by the federations, the second is equally submissive to criminal sanctions.

Acts for the fight against doping versus drug users, are gauged by anti-doping tests, and versus purveyors, are gauged by more classic penal indicators.

As for all illicit substances, the data obtained gives insight into the trafficking of doping substances. But, the picture is still incomplete; there was no structured provisioning sequence in France, beforehand.

As a matter of fact, the majority of the doping substances are medications that have been misused; they can be prescribed by physicians and sold in pharmacies. It seems that the majority of sportsmen acquire the substance from pharmacies, with the help of medical prescriptions (Gallien, 1998). A study conducted in 1997, on 186 amateur sportsmen who admitted doping, specify that 61% were supplied by physicians, 20% supplied by the black market, 15% from supporters, and 4% by other means (Laure, 2000a, p. 318).

Anti-doping tests

In 2000, the Minister of Youth and Sports reckoned 9,457 eliminations taking place during the 1,636 anti-doping tests, on more than 60 different sports federations. The presence of doping substances was revealed in approximately 350 of these eliminations, i.e. in 3.7%. (Youth and Sports Ministry, 2001b), noting that these tests were quite often conducted in the direction of sports disciplines, for which the probability of doping is strongest. Thus, in 2000, 22% of the eliminations concerned cycling, 11% athletics, 6% football, etc.

The positive analyses of the year 2000, revealed the presence of different substances:

Frequency of the detected substances at the time of the anti-doping tests in 2000

(in%)

Main substance detected	
Cannabinoids	23
Salbutamol	22
Corticosteroids	20
Stimulating agents	19
Anabolic steroids	10
Other*	6
Total (N = 323)	100

* Local anaesthetics, narcotics, diuretics, betablockers and beta2-agoniste (other than salbutamol)

Source : Youth and Sports Ministry

The main substances detected are cannabinoids, salbutamol (substance which makes up Ventoline® in particular), corticosteroids, and stimulating agents. The presence of anabolic steroids is more rare (but remains stable from one year to the next). Cannabis is found in nearly all tested disciplines and usually corresponds to the only prohibited substance discovered (Youth and Sports Ministry, 2001b).

In 1999, it was equally specified that sanctions were pronounced in 80% of the cases in which the analyses proved positive to prohibited tests, with the exception of the cases when the matter was during training. These sanctions range from one month to one firm year. The remaining 20% of sanctions has placed those using prohibited and authorised substances under certain conditions (medical prescription, threshold not to be surpassed, etc.), which are given instead of a calmativ, or for a medical prescription accepted by the disciplinary commission (Ministry of Youth and Sports, 2000).

In spite of the perceived increase in eliminations since 1996, and in 2000 in particular, during the preparations for the Olympic games in Sydney, the percentage of positive cases remains visibly stable, around 3.5%.

Number and results of the antidoping tests conducted in France from 1996 to 2000

	1996	1997	1998	1999	2000
Number of fulfilled* eliminations	5,483	5,228	7,113	7,726	9,457
% of positive cases	3.5	3.6	2.5	3.6	3.7
in men	3.9	4.0	2.9	4.0	-
in women	2.2	2.3	1.2	2.5	-

* A physician delegated to conduct an anti-doping test can make many eliminations (between 4 and 8 on average).

Source : Youth and Sports Ministry

This percentage is still more significant in men than in women. It is usually slightly higher in foreign sportsmen, i.e. non-licensed by the French federation, than in French sportsmen.

‘The efficiency of the anti-doping fight does not rely on multiplying the number of tests conducted, but on improving their goal (especially a better follow-up on sportsmen during their training period) and, in particular, on the detection, the sensitivity, and the margin of the results of the collected specimen’ (CNRS 1998).

As a matter of fact, the limitations of this source as an indicator of the prevalence of doping in the sports environment are several and hold to:

- The difficulty to detect certain substances and procedures (taking into consideration the duration of the elimination and, therefore, the detection of substances—half-life—and the fact that sportsmen know how to hide their consumption and play within the legal thresholds)
- The accuracy of the tests: they are usually conducted at great sports events, and consumption can easily be reduced during these periods
- The small number of tests compared to the number of licensed sportsmen.

Customs action

Customs can take action on two levels: when it stops certain prohibited substances in France, and when in the presence of persons holding large quantities of certain substances, even if the substances are authorised.

By doing so in 1998, Customs Services registered 48 offences that led to the capturing of approximately 50,000 doses of ‘products of anabolic steroids effects’. Most of these arrests were made during traffic tests, mainly at the Belgian, Spanish and Swiss borders. Mainly, the acts concerned sportsmen and body-builders. (DGDDI (Délégation générale à la lutte contre la drogue et la toxicomanie : General Delegation for the Fight Against Drugs and Drug Addiction), 1999).

These results are greatly declining, compared to 1997, in which 61 offences were recorded and 105,280 doses seized. However, compared to 1994, the growth is evident, in numbers of infractions as well as in the quantities seized (Halba, 1999, p. 43).

Geography showing the consumption of doping substances

Only the European approach is treated here. For the French references, the actual investigations throughout the entire population are too weak to represent the geographical aspect of substance consumption for the purpose of improving performances. Responsible or relative data for the anti-doping fight are not analysed geographically.

Furthermore, it is difficult to compare the French situation to its European neighbour's from the point of view of doping substances consumption and its consequences. As a matter of fact, the investigation data from the entire population in European Union countries cannot be used, because it is partial and diverse. Finally, the only data that are actually comparable are those from the ESPAD investigations (conducted on young 15-16-year-old pupils in 30 European countries. They concern the use of anabolic steroids throughout the young pupils' lifetimes (Hibell, *et al.*, 2001).

In the heart of the school population and among thirty countries questioned in the ESPAD investigations, the lifetime usage of anabolic steroids by French students of the age 16 ranks France slightly below average, for boys as well as girls. The prevalence is about 1% on average, being higher in boys (about 2%); it is easier to compare only the two. France, with 1%, is behind Greece and Ireland (3%) as well as Norway, Sweden, United Kingdom and Portugal (2%). The countries in which the use by boys is more common are Poland (6%) and Cyprus (5%) (Hibell, *et al.*, 2001).

For further information

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