Football and doping: study of African amateur footballers

P F M Ama, B Betnga, V J Ama Moor, J P Kamga

Objective: To investigate use and awareness of lawful and unlawful substances by amateur footballers in Yaounde, Cameroon.

Methods: A total of 1116 amateur footballers (1037 male and 79 female) out of 1500 contacted participated in this study. They were divided into three groups: elite players (n = 314); local players (n = 723); female players (n = 79). They answered a questionnaire of 30 items grouped under six main topics: identification of players; use of lawful substances subject to certain restrictions on the International Olympic Committee (IOC) list; use of IOC banned substances; doping behaviour; awareness of doping; food supplements. The results of the questionnaire were scrutinised using Microstat software, and the level of significance was p<0.05.

Results: (a) Use by our footballers of a banned substance (cocaine) and substances subject to certain restrictions (alcoholic drinks, methylated spirits, and banga (marijuana)). (b) Doping behaviour: use by our footballers of substances with similar effects to some IOC banned substances but not listed as such: tobacco, liboga, wie-wie (narcotic), bilibili (locally made alcohol drink). (c) A large intake of vitamin C (food supplements) in all three groups. In contrast, the footballers' knowledge of doping was vague.

Conclusion: Preventive actions and an epidemiological study of doping among footballers are urgently required.

A total of 1116 amateur footballers (1037 men and 79 women) out of 1500 contacted participated in this study after giving their written consent. The approval of the National Football Federation and the various district championship organising structures was requested and obtained. Of the 1037 men, 723 play in the various football championships organised in the districts of Yaounde. They are considered as “local players” because they have no licence issued by the National Football Federation. The remaining 314 players have licences and are considered as “elite players”. The 79 women play in the various female football clubs affiliated to the National Football Federation. Table 1 gives their ages.

The footballers answered an anonymous questionnaire of 30 items (fig 1) grouped under six main topics: identification of player (questions 1–5); use of drugs subject to certain restrictions (questions 9, 10, 11, 12, 15, 16); use of banned substances (questions 24, 25, 29); awareness of doping (questions 14, 17, 20, 23, 30); doping behaviour (questions 6, 7, 8, 13, 18, 19, 21, 22); food supplements (questions 26, 27, 28).

Table 1 Identification of groups of footballers

<table>
<thead>
<tr>
<th></th>
<th>Elites</th>
<th>Locals</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of clubs</td>
<td>19</td>
<td>12</td>
<td>5</td>
<td>36</td>
</tr>
<tr>
<td>Number</td>
<td>314</td>
<td>723</td>
<td>79</td>
<td>1116</td>
</tr>
<tr>
<td>Age (years)</td>
<td>20.4 (3.2)</td>
<td>21.8 (4.3)</td>
<td>21.2 (3.3)</td>
<td>21 (1)</td>
</tr>
</tbody>
</table>

Age is given as mean (SD).

The questionnaire was endorsed by experts. A beverage named bilibili and a powdered substance named wie-wie are both locally made products. They were included in the questionnaire because bilibili is a locally made alcoholic drink distilled from maize or soybean or even rice or millet, and wie-wie is a mixture of leaves from plants with stimulating effects, reduced to powder and inhaled; it is a mood elevator and reinforces self confidence. Banga is the local name given to marijuana.

The questionnaire was answered either on the training fields of the various clubs or in the stadiums before the matches and was returned to us immediately. The results were assessed using Microstat software. Analysis of variance was used for comparison by age and extent of drug use and awareness. The level of significance was p<0.05.

RESULTS

The participation rate was 74.4%. No significant age difference was observed between the three groups.

Use of substances subject to certain restrictions

Alcoholic drinks

Some 41% of all players admitted drinking alcohol in general. Sixteen percent said that they drink before matches, and 22% said that they drink immediately after matches. In descending order of frequency, local players (47%), elite players (34%), and female players (22%) admitted drinking alcohol in...
Methylated spirits
A quarter of all players admitted drinking methylated spirits in general. Local players (29%) seemed to drink more methylated spirits than female players (20%) and elite players (17%).

Banga
Some 10% of all players admitted using this drug in general. Only 8% used it before matches. In descending order of frequency, local players (12%), female players (8%), and elite players (7%) admitted using it in general, 10% of local players, 7% of elite players, and 3% of female players said that they used it before matches.

Use of banned substances
Some 8% of all players admitted using cocaine in general, and 7% admitted using it before matches. In descending order of frequency, local players (9%), elite players (5%), and female players (4%) said that they use cocaine in general, and 8% of local players, 5% of elite players, and 3% of female players said that they use it before matches.

The other banned substances used by players are stimulants (ephedrine), anxiolytics, psychotropes, antalgics, iron, analgesics, and non steroid anti-inflammatory drugs.

Doping behaviour
Tobacco
Almost a quarter (24%) of all players declared that they smoke in general, and 18% and 16% said that they smoke before and after matches respectively. Local players (28%) generally seem to smoke more than elite players (19%) and female players (13%). This trend was maintained for smoking before matches (19%, 16%, and 8% respectively). After match smoking was similar in local (17%) and elite (16%) players but more prevalent than in female players (4%).

Bilibili
Most (89%) players said that in general they did not take bilibili. More local players (12%) seemed to take it than elite (9.2%) and female (2.5%) players.

Liboga
Only 6.4% of players said that they take liboga in general, and 6.4% also declared using it before matches. Consumption in local (8%) and elite (4%) players was similar, but female players did not take it at all.
Sport and doping

Discussion

The list of substances in the IOC antidoping code does not include tobacco or alcohol among the substances submitted to certain restrictions. We have included tobacco in this study because it is considered a lawful drug in Cameroon and because of the well known adverse effects of tobacco on various variables associated with physical performance. For more details, see Shephard, Rode and Shephard, Sepponen, Klausen et al, and Jacques et al.

The results of this study were obtained from a questionnaire and therefore should be considered with some reservation in view of the fact that some footballers probably gave wrong answers to avoid disclosing their use of drugs, whereas others might have said that they use drugs for bravado.

Use of substances submitted to certain restrictions and doping behaviour

The number of footballers who claim to drink or smoke frequently (for social purposes) and those who claim to do so before matches (for doping purposes) suggest that intake of certain substances in our football circles is quite high and that women are not excluded. The lack of epidemiological data on smoking and drinking in Cameroon limits interpretation of our results. However, according to WHO, the prevalence of smoking in 1990 among women in Africa was about 10%. The increasing number of female smokers over the years, thanks to aggressive advertising by tobacco companies and global population growth, suggests an increase in the percentage of women who smoke in Africa. The percentage of women who admitted to smoking in this study (13%) may reflect the reality in Africa. Also, in the three groups, smoking before matches is more common than after matches. Local players seem to smoke more than players in the two other groups. Consumption of alcohol in general, and methylated spirits and bilibili in particular, is higher after matches than before, which suggests “the third half-time” phenomenon. According to Bailly et al, 34.9% of sportsmen admit to drinking alcohol after physical activity. However, intake before matches suggests the need to implement preventive measures. The results of this study also suggest that being part of an elite group (male and female) may reduce alcoholic intake in general, and methylated spirits and bilibili in particular (at intake by local players). Alcohol consumption and tobacco use by sportsmen has been the subject of previous scientific literature.

It is notable that the use of banga and wie-wie is common in our three groups, although women do not use wie-wie and liboga before matches. In contrast, the same proportions of female and elite players use banga.

Use of banned substances

The results of this study suggest use of cocaine (a narcotic drug) by our players, and female players are not excluded, using it as frequently as male elite players. It is well known that sportsmen are not excluded from the use of psychoactive drugs such as cocaine and marijuana. However, these studies do not tell us if the players use such drugs before competition as is the case in this study. Whatever the drug considered, drug use by local players seems to be higher than that of the two other groups. As tobacco, alcohol, and prohibited drugs have adverse effects on some physiological variables associated with physical performance, it is important to implement preventive actions to help these players.

Doping awareness

Our results suggest that all drugs listed in this study are known about in various degrees, by players of the three groups. Thus, female players declare no knowledge of liboga whereas 54% of them say that they know about banga; this is a higher percentage than of elite and local male players.
Take home message

This study looks at doping and doping behaviour in amateur football in Africa. Local doping substances with unknown active principle are commonly used.

Definitions

• Liboga or iboga: a plant the roots of which contain substances with stimulating effects (P Laure. Dopage et société. Paris: Les Ateliers de Normandie, 2000;199).
• Bilibil: a locally made alcoholic drink, distilled from maize or soya bean and even rice.
• Wie-wie: a mixture of leaves from some plants with stimulating effects, reduced to powder and inhaled.

These terms are local names given to these doping substances, the active principle of which is not yet known. We suggest that they be used until scientific names have been determined.

According to local hairdressers, women use banga as a capillary stimulant. This could explain why sportswomen know about this drug.

Once again, the group with highest percentage of players with knowledge of banned substances was the local players, and furthermore their intake was higher than that of the two other groups. Therefore, knowledge of a given product does not inevitably imply less use.

Anabolic steroids and cannabis are substances that our three groups had heard much about, compared with amphetamines and erythropoietin. It is well known that cannabis and banga (marijuana) are two different names for the same substance. The different percentages registered in the various groups about knowledge of the same substance (but under two different names) show a vague awareness of this doping substance. Such vague awareness of doping by high level sportsmen has been reported in other studies.15

Food supplements

The intake of vitamin C is high in all three groups whatever the period (before or after matches). Herbert16 observed that daily intake of large quantities of vitamin C, niacin, vitamin B6, folic acid, and vitamin B12 could cause hepatic lesions (steatosis), nausea, dermatoses, muscle weakness, and fatigue in sportsmen. Transmission of hepatitis C virus was recorded in Brazil after injections of vitamins to sportsmen.17 All these findings emphasise the need for food education, especially concerning vitamin intake.

Conclusion

The results of this study show use of unlawful and lawful drugs both for social and doping purposes in our three groups. The type of drugs used (stimulants, narcotics, iron, etc) and the vague awareness of doping emphasise the importance of implementing preventive measures together with an epidemiological study on doping in football circles.

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