

Education to legality and doping

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Key words: Doping, Education to legality, Mafia, Crime, Public health,

Parole chiave: Doping, Educazione alla legalità, Mafia, Crimine, Sanità pubblica

Abstract

When planning actions to prevent doping in the general population, public health operators may collide against the interests of criminal organizations involved in illicit trafficking of drugs. In addition to technical and professional expertise, or clinical and pharmacological skills, also a deep knowledge of legal and social issues is strongly required to face the problem and assure the effectiveness of the preventive actions. Sports competitions, athletes training or adapted physical activity may all represent conditions and environments at risk for misusing or abusing drugs and dietary supplements. A correct approach to sport and physical activity implies respect of competition rules, attention to own body limits and knowledge of risk factors. Health education campaigns and preventive actions should also consider education to legality in the different settings. The comprehension of the complex net that is available to access doping, locally or globally through online Internet sites, is essential as well as the awareness of the huge economic burden of crime interests behind the illicit trafficking of drugs. A modern whole rounded approach needs to consider doping not only as a violation of sport rules but also of the own body health, representing almost a form of addiction involving individuals and communities, and being supported by crime. Within this frame, doping is considered not just as a sport violation or a risk factor for individual's health, but as a disease of the society, in the society, against the society. A peculiar equilibrium seems to prevail between crime external pressures and resigned internal acceptance, according to the 'mafia hypothesis' model, where hosts accept parasitism to avoid retaliation. Here, main contributes and topics from the Erice 53rd Course are summarized and reviewed, providing links and references for further studies in the field. Health education and education to legality represent two sides of a same question, concerning both the general population and the health authorities. In conclusion, education to legality is a key component for prevention of doping and a priority for public health operators involved in protecting population health.

Introduction

Prevention of doping during high level competitions is established by an effective system of rules and controls, but its diffusion at amateur level requires a different integrated approach, based on contrast to the crime

involved in the illicit trafficking of drugs and on promotion of education to legality. Within the 53rd Course of the "International School of Epidemiology and Preventive Medicine" held in Erice in 2018 and based on a previous Consensus document (The Erice Charter 2015 on "Adapted physical activity and

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health promotion), the role of Departments of Prevention of the Italian National Health Service (NHS) was clearly identified in fostering physical activity for health, but also in promoting and protecting a safe sport activity in the population (1, 2). Among these aims, the fight against doping and the unjustified assumption of nutritional supplements emerged as a key issue, involving public health authorities in their efforts to improve population health by promoting sport and physical activities (3-11). Article 18 of the World Anti-Doping Code (WADC) 2015 is dedicated to endorsing anti-doping education with the aim of preserving the spirit of sport (12). Enforcing anti-doping rules in a global and harmonized way, requires a distinction between criminal and civil proceedings. The WADC is a regulatory blueprint from which the national and regional anti-doping organizations – NADOs and RADOs, respectively – implement and carry out anti-doping programs. WADC contents are not intended to be subject to or limited by any national requirements and legal standards applicable to such proceedings, although they are intended to be applied in a way which respects the principles of proportionality and human rights, aiming to the fact that those rules represent the consensus of a broad spectrum of stakeholders around the world, with a common interest in fair sport (12). Being a crime, penalties were considered for possession of doping substances by athletes and non-athlete as well as trafficking or supplying doping substances and doping athletes may be object of charge or imprisonment (13). However, policies were created for Olympic and professional elite athletes and not for amateurs or people of different ages involved in recreational physical activities or lower-level, local or unofficial competitions. Here, education, controls and prevention play a major role, even if essential tools include monitoring and labelling of commercially available

products, such as drugs and diet supplements. The word “doping” is well known by athletes from different disciplines, trainers and operators in the area of sport, also due to the massive role of media diffusing news regarding famous cases of doping in top-level athletes. However, the use of these kind of substances assumed to artificially enhance athletic performance, still became more and more present at amatorial level and in the general population practicing sport or simply attending gyms and sport facilities (14). Pharmaceutical substances utilized for doping practices were originally developed by scientists as treatments for specific diseases, e.g. amphetamines or anabolic steroids, growth hormone (GH), erythropoietin hormone (EPO), or even technical procedures such as blood transfusion (12, 15-19). With the diffusion of anti-doping-controls, researchers began to produce modified molecules to be considered in the field of sport for doping uses, to the final aim of trying to cheat laboratory analysis surveillance. Other methods to escape antidoping controls were also adopted, e.g. providing fake urine samples. In 1967 the IOC (International Olympic Committee) introduced antidoping controls when the growing possibility became ethically unsustainable that athletes -with their team personnel- would have accepted to assume drugs to artificially enhance performance, at the price of accepting also a dangerous potential for their health. From then till now, a general agreement among the States, and with the International Sport Federations, brought to the foundation of the WADA, World Anti-Doping Agency (12). WADA promotes honesty, integrity and equality, representing the international organization that supervises the activities of the National and Regional Antidoping Organizations (NADO and RADO). It verifies the quality of national antidoping controls, organizes the international surveillance, establishes the

sanctions for Anti-Doping Rules Violations, determines and updates the list of prohibited substances, and coordinates the activities of promotion and education. Nevertheless, this broad and specialized activity could not stop the practice of doping, that is still very widespread as shown by the huge amount of confiscations of prohibited products, especially in the juvenile and amateur field. Corruption and criminal phenomena are present in all areas of society, and even prevention may face this type of behaviors, affecting not only people's safety, but also people's health. Behind the spread of the doping phenomenon, the abuse of supplements and drugs in physical activity there are criminal gangs making profit by exploiting the needs of people. Corruption plays a role at different levels, making illicit private interest instead and against the community's and citizen's one. Conflicts of interest support crime, but also the asymmetric information frequent in the health field, because citizens rely almost completely on the judgment of others -doctors, health professionals- or on the messages carried by media and socials. Also due to the complexities related to technology and science advances, people may find barriers in understanding doping and can easily overestimate drug benefits vs risks. This is particularly critical when considering amateur athletes that adopts self-made solutions to enhance performance often without the presence of athletic trainers and sports physician, lacking the necessary knowledge to protect their health or to avoid pressures by others or by the Internet online messages and offers for novel doping products. Doping can be considered also a risk factor within the different lifestyles that are known to represent main disease determinants. Physical in-activity as well as diet play a fundamental role, within the social and family context, the work and school settings, the different natural environments (1-4, 20). Alcohol, smoking

and different forms of addictions related to the social background -including drugs, sex and gamble- impact on people's wellbeing, representing forms of individual and social diseases "against the individual and against the society" as initially proposed by Prof. G.C. Vanini as unforgotten mentor and President of the Ministerial Commission for Drug Addiction during period 1989-1992 (21, 22). Doping appears as a putative form of addiction, strongly influenced by social issues. Interestingly, the health systems seem to play a lower role in this process, showing the leading influence of environmental, social, genetic and transversal risk factors on the burden of disease, following a multifactorial model (21, 23). Therefore, the Prevention Departments of the NHS have a stronger and fundamental role in understanding the local social context before planning sport activity in health promotion interventions, enforcing also the prevention of doping and the respect for legality. These interventions require appropriate educational actions to foster community and individual empowerment. Moreover, the NHS may reinforce the sport contexts as a sustainable vehicle for health promotion. The social role of public health imposes a whole-rounded approach to ethics, not simply as professional deontology, but as a profession, an everyday habit. In recent years ethical codes have been approved in Italian and European public administrations and these documents often speak of legality and ethics. Without willing to diminish their value, the risk is to consider them only as external labels. Whenever an institution needs to write an ethical code, probably some ethical behaviors are no more naturally shared, or were forgotten or lost along the way. Ethics must be considered as a lifestyle, an attitude, and not just a philosophical added value. In this perspective, also legality is not an absolute principle, but a tool for justice. Organized crime, as the different forms of mafia, counteract equity in accessing services or appropriateness in

healthcare management by diffusing corruption, threats, retaliations, economic waste, interest-based and not evidence-based decisions. In an ecological and evolutionary perspective even basic sciences provided a 'mafia hypothesis' (24-26). According to these models, in cases such as brood parasitism, hosts accept without any resistance parasitism, probably when it is likely that a parasite would retaliate (27, 28). However, it is peculiar that once the threat of retaliation ceases, hosts should reject parasitism attempts, instead of triggering an evolutionary cycle, inducing a coevolutionary race that was also described in a mathematical evolutionary model (24-26). In human beings, the scenario is more complex, at individual and community levels. Mafia, indeed, can support doping habits "in negative" by repressing legality through threats and retaliation, but also "in positive" by an opposite kind of strategies based on offering apparently pleasant illusions, such as winning competitions, overcoming records, or -more insidiously- assuring social acceptance in exclusive clubs or sport broods. An organized legality is needed to counteract organized crime. Education and ethics may be considered as pillars that "in positive" support empowerment at individual and community levels, but also "in negative" repressive actions are strongly needed to enforce compliance with the rules, to fight doping and to promote fair sport.

Enforcing legality in doping

The illicit trafficking of drugs represents a fundamental condition to allow the diffusion of doping against national and international rules that were issued by states, local authorities or by the sport federations for several kinds of competitions. This topic involves health as well as safety and security at different echelons. In Italy, a specialized Unit is dedicated to assuring the application of

laws aimed to protect health: The Carabinieri Healthcare Command (The Carabinieri NAS - CC NAS). It has a specific organization depending both from the Carabinieri military Headquarters and functionally from the Ministry of Health. Since 1962, several laws have improved this corps, including Law n. 283/1962 regulating food and drink safety; the formal establishment of this force on the 15th of October 1962, as NAS, Nucleo Anti Sofisticazione (Anti-Sophistication Core) up to the 30th of November 2005 when law n. 244 provided the present denomination as Comando Carabinieri per la Tutela della Salute (The Carabinieri Healthcare Command). It was then further organized by the Inter-ministerial Defense-Health-Internal Decree in February 2008 (29). The CC NAS has different roles in protecting population health and interplays with different technical committees and institutions of the Italian Republic, including the Section for Surveillance on Doping (SVD) within the Sanitary Technical Committee of the Ministry of Health, as established in DM 26.02.2008 (30). Main areas include: food safety and controls on food hygiene, food fraud, zootechnic productions and animal feeds; work safety and the respect of rules for prevention of occupational risks; pharmaceuticals and regulations on drugs for human or animal use, as well as on cosmetics and medical devices; and controls in the healthcare area, involving public and private structures and including the antidoping setting. In particular, tasks related to the prevention of doping include surveillance on drug authorization processes, drug traceability, monitoring on pharmaceutical assistance and adverse drug events and several other areas focused on addressing the respect of the laws and the safety for the citizens regarding the distribution and use of drugs among the population. All these actions are effective at different institutional levels. The operative action is based on administrative

inspections, sampling and monitoring, and investigations. Within a wide range of activities and expertise the topics related to the enforcement of legality for preventing doping, are founded on different laws, such as: i) Article 32 of the Constitution of the Italian Republic: “The Republic protects health as a fundamental right of the citizen”; ii) Law N. 376/2000 on the Regulation of health protection of sports activities and the fight against doping and Ministry decree D.M. 14 February 2012; iii) Penal Code C.P. art. 586 bis: Use or administration of drugs or other substances in order to alter athletes’ competitive performance (effective from 1 April 2018 - repeal of Article 9 of Law 376/2000); iv) Ministry decree D.M. February 26, 2008, art 4: Reorganization of the Carabinieri Healthcare Command (29). During years 2015-2017, over 1200 controls have been performed and over 150000 packs were confiscated, over 600 people were reported to the authority and 50 arrested, for an overall budget value of over 9.000.000 Euro in products that were withdrawn from the market. In addition to those drugs most frequently used for doping in athletes competitions, it is important to consider the wider online market for diet supplements and other products that can escape routes and networks of sport competitions and that can reach the citizen through gym, sport structures or individual access to Internet. Most of these products can reach the consumer through the online market and can escape the national controls, including also the European rules for quality, safety and labeling procedures (31). Within a multidisciplinary approach involving different institutions and expertise, the Carabinieri Healthcare Command plays a fundamental role in monitoring, surveillance and repression of illicit traffic of drugs and preventing doping. It represents an essential reference also for health authorities involved in promoting healthy lifestyles based on sport and physical activity and aimed to contrast the abuse of drugs and the diffusion

of doping habits in the general population of different ages.

Food supplements and the activity of the Carabinieri NAS

The action performed by the CC NAS are performed within an established frame of regulations, both national and European. Directive 2002/46/CE harmonized requirements on food or diet supplements (FDS) in order to protect consumers from potential health risks and to ensure that these products would not be sold with misleading information. In Italy, it has been implemented by the legislative decree 21 May 2004, n.169 (32). Food supplements are defined and regulated as “food products intended to supplement the common diet and that constitute a concentrated source of nutrients, such as vitamins and minerals, or other substances having a nutritional or physiological effect, in particular, but not exclusively, amino acids, essential fatty acids, fibres and extracts of vegetable origin, both single-component and multi-component, provided in pre-dosed forms”. FDS usually are available in small ready-to-use units, such as capsules, tablets, sachets, vials and may contribute to well-being by optimizing or favouring the natural processes of the body’s functions with the supply of nutrients or other substances with nutritional or other physiological effect. Their placing on the market requires to fulfil a label notification procedure to the Ministry of Health. Once this procedure has been satisfied, the products are included in a special list with a specific code, the details of which can be found on the same label. Ministry Guidelines (MGL) provide provisions applicable to food supplements for aspects that are not harmonized at European level, as required by Article 5 of Legislative Decree 169/2004: “Contribution of vitamins, minerals and other substances”, and are structured in the following sections:

i) vitamins and minerals, including information on the maximum permitted intake levels;

ii) probiotics and prebiotics, including information on specific provisions for these substances with a “physiological” effects;

iii) other substances with a nutritional or physiological effects, including information on various provisions for other nutrients and other substances with a nutritional or physiological effect, other than herbal substances and preparations (botanicals). For supplements presented as adjuvants to low-calorie diets, these products must be in compliance with what is shown in the appropriate list. Given that to date there is no provision for harmonizing the use of substances other than vitamins and minerals, the use of botanicals in supplements has been regulated by the Ministry Decree of 9 July 2012, as amended Annex 1 of the decree of 27 March 2014, reported in the section “Substances and herbal preparations” (33). The provisions of the guidelines for substances other than vitamins, minerals and botanicals are applied pending the revision of the matter, to arrive at the preparation and adoption of a regulatory act similar to that of the botanicals. It is important to underline that a substance, in order to be used in a food supplement, must have registered a previous significant consumption as proof of safety in the European Union (EU). If this condition does not apply, the substance is configured as a new ingredient or a new food product (novel food) pursuant to Regulation (EC) 258/97 and, therefore, its possible use -even exclusively within the food supplements area- will require a prior authorization at European level. Furthermore, if the previous consumption occurred only with the FDS/integrators, the addition of the substance to the foods leads however to apply the regulation (EC) 258/97 to re-evaluate exposure levels of consumers in view of the increase in available food sources for that specific substance. The use of botanicals in

FDS is governed by the Ministerial Decree of 10 August 2018, amended by the executive decree of 9 January 2019, with regard to the list of accepted plants and their parts, accompanied by -whenever appropriate- additional provisions. The substances, preparations and extracts obtained from the listed plants, based on consumption, can be included in the novel foods, according to Regulation (EU) 2015/2283. Food supplements are supposed to contribute to well-being by optimizing the body’s natural state or by promoting the normality of the body’s functions with the supply of nutrients or other substances with a nutritional or physiological effect. The placing on the market of each food supplement by a food business operator (FBO) undergoes to the fulfilment of the electronic notification procedure to the Ministry of Health, which will assess its compliance with current legislation in order to guarantee safety and correct information to consumers. Once this procedure has been fulfilled, the products are included in a special list with a specific code, the details of which can be found on the same label. In recent years, the use of food supplements in sport increased, both at professional and amateur levels. The use of FS may not match to the individual’s needs for a proper nutrition, rather than satisfy the desire to enhance the athletic performance. Critical issues can raise when FDS marketing especially if they are purchased outside legal channels, often thru Internet websites of dubious reputation. Indeed, this kind of supplements not only represents a risk because it overcame controls and requirements as defined by the legislator to guarantee consumer safety, but very often they also contain doping substances, such as psychostimulants, anabolic steroids and their precursors, which are dangerous for health and whose trade is in the hands of unscrupulous criminal organizations. The activity of the CC NAS in this area is intensive and table 1 shows some

of the achievements obtained during the last years when contrasting the illicit trafficking. Since 2013 up to May 2019, investigations and over 2600 controls were performed, allowing to confiscate 668073 packages of supplements, for a total value of about 13 millions of Euro and almost 100 people reported to judicial authorities and over 400 reported to the administrative authorities.

Main operations of the CC NAS during years 2018-2019, involved different Italian regions and cities, e.g.:

i) Milan (February 2018): Confiscation of 207.018 packages of FS (for a value of about 3 million Euro), that were produced in Europe to be commercialized in Italy (Reason: presence of “propyl-parahydroxybenzoate”, food preservative whose use is not permitted);

ii) Turin (February 2018): confiscation of 19 packages and a person reported to the authority in the case of a drug store where some FS resulted produced by a different company respect to what available on the label (Administrative penalty of about 200 Euro);

iii) Treviso (July 2018) Confiscation of 9722 packages of FS (for a value of about 300000 Euro) and a person reported to the Health and Administrative Authority for storage of FS in a not allowed warehouse;

iv) Milan (October 2018) The manager of a company producing FS and health products was reported to the authority because of replacing a new label-punching on the packages of expired FS, reporting non-existent lots and expiration dates (Confiscation of 18000 packages of which 70000 already tampered with; for a total value over 4 million Euro);

v) Palermo (December 2018): confiscation of 636 packages of FS because not included in the Ministry Registry (Omitted notification, value of the products withdrawn from the market: about 15000 Euro);

vi) Rome (December 2018) confiscation of 1853 packages of FS in a shop because of

Table 1 - Activity of NAS and main achievements in contrasting the illicit trafficking of diet supplements.

Year	Controls	Not-compliant	Samples	People			Penalties		Amount in Euro	Value of confiscations (Euro)
				Reported to Administrative Authority	Reported to Judicial Authority	Arrestate	Penal	Administrative		
2013	460	156	30	107	24	0	47	184	213.127	365.297
2014	414	84	51	60	11	0	25	106	150.392	367.100
2015	469	101	34	71	13	0	29	179	189.801	402.293
2016	124	31	3	24	3	0	3	29	70.024	692.650
2017	293	69	58	52	9	0	17	80	130.162	1.102.167
2018	475	70	76	51	13	0	18	73	135.754	9.797.715
2019*	369	71	20	41	24	0	34	52	78.306	258.310
Totale	2.604	582	272	406	97	0	173	703	967.566	12.985.532

*January-May 2019

not allowed claiming of health information on the label (Approximate value: 10000 Euro);

vii) Genova (January 2019): confiscation of 82 packages of FS in a drugstore because of omitted notification in the Ministry official registry (Approximate value: 2000 Euro);

viii) Livorno (January 2019) confiscation of an automatic distributor of drinks made of water and different FS because not authorized drinks and not notified in the official registry of the allowed products at the Ministry of Health (approximate value: 10000 Euro);

ix) Padova (May 2019): reported to the authority the provider of a company of health products because of selling FS containing pharmaceutical ingredients used for treatment of erectile disfunctions and confiscation in a sexy shop of 65 packages of not regulated FS (approximate value: 1300 Euro).

The previously reported examples provide some indications on the wide and differentiated commitment of the CC NAS in surveillance and control of illegal commercialization of FS and in the potential impact on protecting the health of different groups of individuals in the general population.

The role of the Carabinieri NAS in contrasting doping

In Italy, the anti-doping activity is entrusted to the Ministry of Health (thru a dedicated section: the SVD (Sezione per la Vigilanza ed il controllo sul Doping e per la tutela della salute nelle attività sportive) and to the National Anti-Doping Organization (NADO-ITALY), and to the Olympic Committee (CONI), as defined by the agreement signed on 10/16/2007 by the then Ministers of Health, for Youth Policies and Sports Activities and by the President of CONI, that states how SVD assumes

as main objective non-competitive sports activities and competitive sports activities that do not have a national relevance, whether competitive sports at national and international levels are mainly assumed within the NADO-ITALY activities (34, 35). Qualified personnel and specialized operators (e.g. Ispettore Investigativo Antidoping) are considered within the CC NAS after fulfillment of the attendance at dedicated professional courses. The CC NAS is involved in different tasks such as investigations and acquisition of information, request for antidoping controls, presence and support in sample collection procedures, ascertainment of violations during competitions, management of laboratory analysis results and report to the authority. An agreement between the CC NAS and CONI further defines the collaboration in surveillance of doping (36). The antidoping section of the CC NAS can ask for additional anti-doping controls “in competition” or “out competition” both for a specific competition or for individual athletes, under defined conditions such as: following the dispositions of the Judiciary authority; after complainants even if anonymous; during monitoring actions on athletes or sport disciplines suspected to be at higher risk for doping, or other specific situations. Once confirmed the need for providing additional controls, the request is forwarded to NADO-Italia for the agonistic competitions at national and international level and to SVD of the Ministry of Health for all other situations. Both NADO-Italia and SVD make use of the qualified DCO/BCO Medical Inspectors of the Italian Sports Medicine Federation who will take samples (urine and/or blood for NADO controls; only urine for SVD checks); for the analysis of the samples, medical inspectors can use the Anti-Doping Laboratory of Rome (the only WADA accredited on the Italian territory) or other Laboratories accredited by WADA. Regarding the “out competition” controls,

the SVD can call the athlete to provide the samples in a suitable medical ambulatory; the NADO-Italia can make the controls directly where the athlete indicated the availability (whereabouts) or at residence (or place of stay, even for athletes without obligation of availability). The result of the analysis will be provided by the laboratory directly to the Authority that ordered the control (NADO or SVD), that subsequently will convene the parties following an established procedure. The results of the anti-doping controls in professional and amateur sporting events in the two-year period 2017-2018, performed with the collaborative action of the Carabinieri NAS provided the following results: 2052 controlled athletes, of which 95 resulted positive. During the same years, the anti-doping controls carried out in sports events related to the Cycling Federation, provided results that placed this discipline as the most affected by the phenomenon of doping, showing 34 athletes that resulted positive out of a total of 488 athletes that were controlled during the 2017-2018 period. During years 2017-2018, the action carried by the CC NAS made it possible to arrest 2 people and defer 97 because they were considered involved in illegal trafficking, carrying out the confiscation of over 52000 bull packs of drugs (about 158000 single packs), that resulted prohibited by the anti-doping regulations (Table 2). Most recently, main operations of the CC NAS during years 2018-2019, involved different Italian regions and cities, showing a complex and

heterogeneous situation where the illicit trafficking of drugs involves also Internet sites and international networks as well as local professionals. The huge dimension of this illicit trafficking is shown by a single case in South of Italy (Enna) where the dismantling of a huge illegal online market of drugs ended in 12 arrests for international traffic in drugs and doping, over 50 searches throughout the country and the confiscation of illegal substances for a total value of about 1 million Euros. Recently, the Carabinieri NAS in cooperation with EUROPOL, successfully completed an extensive police operation named "VIRIBUS" and aimed at combating illegal trafficking of doping substances and their use in sports competitions, at a global level. VIRIBUS represents the largest police operation in this field. It was planned in October 2018 by the CC NAS and EUROPOL during a kick-off meeting at the Ministry of Health and involved all European Union Member States, United States of America, Swiss, Albania, Ukraine, Colombia, Montenegro, Moldavia, Island, Bosnia, Herzegovina, and Nord Macedonia, with the support of WADA and the European Anti-Fraud Office (OLAF, Office Européen de Lutte Anti-Fraude). VIRIBUS has made it possible to apply an effective organizational model of coordination and cooperation between the Police Forces of the different States. It further showed the global dimension of the illegal trafficking of doping substances, including the "online" marketing, the transferring

Table 2 - Activity of NAS and main achievements.

Year	Controls	Non-compliant results	People			Penalties		
			Reported to Administrative Authority	Reported to Judicial Authority	Arrested	Penal	Administrative	Amount in Euro
2017	442	440	9	293	10	509	10	12.000
2018	193	39	1	101	1	183	15	16.000
Total	635	479	10	394	11	692	25	28.000

of counterfeit drugs and their subsequent use in sports competitions. It successfully dismantled an organization operating in Italy and Romania, arresting 13 people, seizing large quantities of counterfeit substances and drugs, for a total value of about one million euros. It also allowed to identify and seize -in the Italian district of Salerno- a clandestine laboratory for the production of drugs and doping substances. In and out competition tests involved over 600 athletes, of whom 19 were positive.

Altogether, at the European level, the Operation “VIRIBUS” has made it possible to dismantle 17 criminal groups dedicated to the international traffic of doping substances, identify and seize 9 clandestine laboratories for the production of illicit substances and counterfeit drugs, launch around a thousand investigations throughout Europe, arrest 234 people and seize over 3.8 million doping substances.

The CC NAS activity is synergistically integrated with the anti-doping controls carried out by other police forces, together with other institutions, during sports competitions of each discipline including cycling, soccer, weightlifting and body building. In 2018, the Carabinieri NAS took part in anti-doping controls involving the 170 specialized military personnel, controlling a total of 968 athletes in different sport events. The analytical outcomes of the anti-doping test made it possible to detect the positivity of 50 members belonging to various national sports federations. Among the sports, the most affected by the plague of doping are cycling, athletic specialties (especially long-distance races), triathlon, while the most frequently reported prohibited substances are anabolic substances (e.g. Testosterone, Nandrolone), stimulating hormones (e.g. Growth Hormone, Erythropoietin), steroids and diuretics. More and more frequently investigations need to involve the Internet World Wide Web. The illegal trade in online drugs is an increasingly widespread phenomenon, part of the so-

called cyber-crime. The online purchase of pharmacologically active substances from illegal sites is increasing the risks exponentially. The products on sale can seriously harm health, not only because they are taken without a therapeutic need and any medical evaluation or prescription but also because they offer no guarantee about the quality, safety and quantity itself of the active ingredients in the different products. Knowledge on the phenomenon and on the legal issues and institutions that play a fundamental role in protecting people’s health represent an opportunity to prevent doping and preserve Sport.

Education to legality

Within the 53rd Erice Course, among the many contributes on doping prevention and contrast to illicit trafficking of drugs, it was particularly incisive the presentation of Don Luigi Ciotti, an Italian Catholic priest, deeply involved in the fight against illegality and organized crime and in the support to Mafia victims. He founded “Gruppo Abele” a non-profit organization and Non Governmental Organization that promotes inclusion and social justice, that since 1966 built projects and opportunities for drug addicts, for women victim of prostitution, for people living with AIDS, immigrants and people marked by poverty and fragilities in their lives (37). His effort for drug addicts and disadvantaged has outlined a road, still travelled by many in Italy as in different continents (Africa, South America, also thru international cooperation projects), providing ideas, motivations, methods and novel horizons to education and legality. Other networks of social commitment include the National Coordination of Community reception (38), and the Italian League for the fight against AIDS (39). Over the Nineties, he and his group has expanded their commitment to the fight against the mafia,

giving life to the magazine “Narcomafie” and in 1995 to “Libera - Associations, names and numbers against mafias” (39, 40). Today, over 1,600 different groups all over Italy are gathered in this national network. In addition to the scientific, professional and technical lessons that during the 53rd Course considered the question of education to legality in doping prevention, this presentation provided a direct evidence of the problem, as narrated by a witness and a leader in promoting legality as a tool of justice. Interestingly, he approached the problem from a very wide and comprehensive point of view, considering the role of the different mafias in the society, and showing how at different levels and in different ways, it is responsibility of each citizen to work for building a common good in a better world, starting from own micro-environments and local relationships. Doping and violation of rules in sport is part of a larger phenomenon involving modern societies and the individual responsiveness to legality. Names such as Giovanni Falcone, Paolo Borsellino, Pio La Torre and several others, opponent and victims of mafia represent milestones in the continuing process to build up legality and justice (41). Above and before law-enforcement, education itself plays a needful role. A founding step involves “to give a name” to crime as well as the positive responses a community can provide. The lexicon is part of the awareness of a society, as shown by several words that nowadays are frequent and commonly used, but that were absent or very rare just few decades ago, such as: recovery community, drug-abuser, homeless, disadvantaged, sexual harassment, mobbing, social exclusion, organized crime, anti-mafia, or “Sert” the acronym for naming the public Services for the Addiction of Drugs, of the Italian National Health Service (Law n. 162/1990 and following decrees; 833/1978) (42). Time will further change lexicon acquiring new terms or providing new meanings to traditional terms, making it

increasingly important to acquire an active and mindful role along this process toward awareness and empowerment of individuals, groups, Institutions. This approach requires an attention to the social context and a community-based view, where the individual-perspective becomes a community-perspective, allowing the “we” point-of-view to fully replace the many independent “I” points-of-views. Along this process, the effort to detect signs of the time seems the essential requirement to understand changes before becoming a passive and unaware component of a larger flooding. Doping is a sign of the time. It represents part of a wider social phenomenon where a doping approach seems somehow to concern other settings such as a “doped” economy, “doped” politics, “doped” information or “doped” media, where the reasonable limit of common sense seems forgotten more than overcome. In this perspective of showing off for winning over own limits and merits, the possibility for a crime infiltration is widespread. In the 2017 report of the Parliamentary Commission against Mafia, was noticed: “There is no sector, from construction to tourism, from trade to catering, from legal gambling to sport, in which mafia companies have not invested” (43, 44). The Commission, after collecting all the available information from the different verified sources, reported the presence of mafia in different areas of sport, from the organization of large events, betting in soccer and other sports, up to doping itself. This wider problem of crime infiltration in different activities may collide with several public health actions, including prevention interventions, health promotion campaigns, hospital and healthcare management. The “doped” sectors of the societies cannot be handled just by entrusting the task to police investigations and repressions but need a joined cultural advancement to avoid selling off illusions and acquire a larger responsibility, as defined by the capability

of being “present” and “in charge” to provide answers (“answerable” from Latin *respondere*), as originally used in a public context in *The Federalist* in paper n. 23: “the responsibility implied in the duty assigned to it”, writing to The People of New York in 1787, to support the Constitution and addressing community and public safety (45, 46). Today, responsibility is still a very challenging role for any assignment and for the public health authority appointments, too. Traditionally, public health is deeply rooted in social, cultural and economical issues, and the health authorities may often face several juridical or even police-enforced aspects to address on field their objectives for health (5, 6, 10). Some examples include quarantine, mandatory vaccinations, health policies, waters surveillance, food hygiene or environmental protection (47-50). Regarding the doping phenomenon, the illicit trafficking of drugs represents a lawbreaking that can be supported by organized crime, both at local, national or international levels, infiltrating the world of sports. Otherwise, sport itself represents an excellent framework for education to legality because regulations are part of it. Any competition is based on the respect of the internal rules as well as the attention to a referee, representing a model of harmonic interactions within a community focused toward achieving a shared objective or “goal”. Moreover, Sport itself is an opportunity to promote legality and enforce human values, including health promotion and respect for own body and health (1, 2, 11). This service to community requires an involvement and trust in education itself, not only toward others within rigorously organized campaigns, but also toward themselves, for improving own cultural, legal and civil growth in addition to technical and professional advance. Before “doing”, a first step is “listening”, playing attention to disadvantages, and allowing the communication of hidden social diseases by

understanding the local needs and backgrounds. The fight against infiltrating mafias, in healthcare, prevention, social assistance or other sectors, cannot be based just on the essential role of assuring a living memory, but needs to be translated into new words, new actors and new actions, such as being close to the everyday life of people, as athletes, students, operators in the different areas of the sport sectors. In particular, youth changes along time, requiring update of visions and methods for appropriately communicating and promoting healthy lifestyles. Health education is a first and most precious investment in a community open to others and to the future. It cannot be left to families or schools but requires a novel rigorous approach, based on the collaborative action of all institutions and the involvement of empowered individuals (51-53). Education is based on qualified training and trainers, as sport. In this view, every citizen is an “athlete” and every environment should become “educative” and train to life. Legality itself is not the final aim, but a tool to reach justice. If legality becomes an idol, it can be misunderstood or even manipulated to mask crime or abuse of power. Laws have an ethical potential, both in sport as in other human activities, but the ethical codes are not enough if principles and rules do not become shared values and priorities, at individual and community level. Luigi Ciotti summarized this concept distinguishing deontological rules respect to an everyday educational effort to legality, suggesting that a correct definition would be based not just on “the ethics of the profession” but more on the idea of “ethics as a profession”. The term “profession” is considered hereby as an opportunity to manifest own art and expertise, but etymologically also as a way to educate and transfer to others knowledge, truth and culture, mutually educating each other. Surrounded by an excess of stimuli driven by different pressures, education to legality may find obstacles. Work, sport and

social life itself seem a race against time, where any rule, any opinion and any opportunity may appear equally valid. But, training and doping are not relatively equal, and time is a constitutive component of any sport, as well as of life. Listening to the last and sharing responsibilities with continuity is a possible road to fight illegality. It requires a diffused generosity focused to a horizon of everyday care more than an occasionally extraordinary heroism. Ethics as a profession is a duty of each citizen, whether an athlete, or a public health operator.

Aknowledgments

The authors are grateful to Cap. Camilla Piamonte for the precious support in editing the manuscript.

The present work was supported by the Ministry of Health (Programma di ricerca e di formazione/informazione 2016 sui farmaci, sulle sostanze e pratiche mediche utilizzabili a fini di doping nelle attività sportive. Progetto 2016-3 CUP H82F16000170001 – “Prevenzione del doping elaborazione di uno strumento permanente di educazione coordinato dai dipartimenti di prevenzione del SSN”).

Additional documents and the Italian version is available at: www.sitinazionale.it/BDS/muoversi and/or at link www.progettodoping.it

Riassunto

Educazione alla legalità e contrasto al doping

Quando si pianificano e realizzano azioni preventive per contrastare il doping nella popolazione generale, gli operatori di sanità pubblica possono entrare in collisione con gli interessi di organizzazioni criminali coinvolte nel traffico illecito di farmaci. Oltre alle competenze tecniche e professionali, o alle stesse competenze cliniche e farmacologiche, diviene anche opportuna una profonda conoscenza delle problematiche legali e sociali utili per affrontare il problema e assicurare l'efficacia delle singole azioni preventive. Le competizioni sportive, l'allenamento degli atleti o l'attività fisica adattata possono rappresentare condizioni e ambienti a rischio per l'abuso di medicine e integratori alimentari. Un approccio corretto allo sport e attività motorie implica il rispetto delle regole del gioco, attenzione consapevole ai limiti del proprio corpo e conoscenza dei fattori di rischio. Le campagne di educazione alla salute e le azioni preventive dovrebbero considerare

anche l'educazione alla legalità adattandola al territorio. La comprensione della rete di interrelazioni necessarie per accedere al doping, a livello locale o globale anche attraverso siti Internet, è essenziale così come la consapevolezza dell'enorme onere economico e interessi criminali presenti dietro il traffico illecito di farmaci o droghe. In questa prospettiva il doping non appare solo come una violazione delle regole dello sport, ma anche della propria salute e corporeità, rappresentando quasi una forma di tossicodipendenza che coinvolge sia singoli individui che comunità e che è alimentata dal crimine. In questo contesto, il doping non è considerato come una semplice infrazione nello sport o un fattore di rischio per la salute, ma come una vera e propria malattia della società, nella società contro la società. Un particolare equilibrio sembra prevalere tra le pressioni esterne del crimine e l'accettazione interna rassegnata, secondo il modello dell'"ipotesi mafia", in cui gli ospiti accettano forme di parassitismo per evitare ritorsioni. Vengono qui riportati i principali contributi al Corso di Erice 53rd, riassunti fornendo collegamenti e riferimenti per ulteriori approfondimenti sul tema. L'educazione alla salute e l'educazione alla legalità rappresentano due aspetti di una stessa questione, sia per la popolazione generale che per le autorità sanitarie. In conclusione, l'educazione alla legalità rappresenta una questione chiave per la prevenzione del doping e una priorità per gli operatori di sanità pubblica coinvolti nella protezione della salute della popolazione impegnata in attività motorie e sportive.

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