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Peer Education strategies for promoting prevention of doping in different populations

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Abstract

Background. *In the field of doping prevention, alongside the traditional functions of repression and control of the phenomenon, educational aspects are becoming increasingly important. Article 18 of the World Anti doping Code obliges the signatories to invest in anti-doping education with the aim of preserving the spirit of sport. The educational commitment should involve young people in health promotion interventions for the prevention of risk behaviors. Therefore, our attention has focused on finding the mechanisms that lead people to make certain behavioral choices.*

Materials and methods. *In the context of preventive programs, to counter the doping phenomenon through health promotion programs, the most recognized method is peer education, particularly with adolescents. It is an educational method according to which some members of a group are empowered and trained to carry out specific activities with their peers. It is constituted as an example of equal relationship and finds its basis in cooperation and solidarity with the aim of increasing empowerment and a healthy development of the identity and collective dimension in young people.*

Results. *Numerous experts - biologists / nutritionists, hygienists, sports coaches, psychologists, teachers of physical education in secondary schools and other stakeholders have actively participated in the co-construction of a training package aimed at activating cascade training processes on the knowledge and skills of peer education in contexts of youth aggregation, such as schools, gyms, sports associations, social gatherings of all kinds. The path allowed to define a peer education model capable of enabling the participants to activate health promotion interventions for the prevention of doping risk behaviors, each in their own setting.*

Conclusions. *In conclusion, we can say that prevention programs are the more effective the more they are addressed to young people and adolescents and provide interactive and action-oriented interventions. Successful initiatives aim to emphasize the development of life skills and to influence numerous determinants of behavior, including individual attitudes, knowledge, motivations, interpersonal relationships and social norms. If the aim is to act on the change of behavior, the efforts will be more successful if the content of the intervention will give due consideration to the context in which it applies and the target population, involving it and addressing its specific needs and values.*

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Introduction

The most complete and exhaustive definition of doping is surely that introduced on 1st January 2004 by the World Anti-Doping Code compiled by the World Anti-Doping Agency. The definition was then transposed by the national anti-doping CONI regulation and by the Strasburgo Convention.

Doping was defined as: *the presence of a forbidden substance or its metabolites in the biological sample of an athlete; the attempted use of a prohibited substance; the refusal to do medical checks or to undergo the sampling of biological samples, without justification; the breach of the conditions for athletes who have to do the checks out of competition; the attempted tampering with anti-doping controls; possession of prohibited substances or methods; the attempted traffic of prohibited substances or methods.*

The World Anti-Doping Agency (WADA) promotes, coordinates and monitors the fight against doping in sport from a global position. Article 19 of the World Anti-Doping Code (WADC) states that anti-doping research *"contributes to the development and implementation of efficient programs within Doping Control and to information and education regarding doping-free sport."*(1). Education occupies a central role in the efforts to prevent doping in sport, as defined by Article 18 of the 2009 WADC. The Code compels signatories to invest in anti-doping education since this fulfils part of the deterrence function required of signatory countries. The basic principle for Anti-Doping education programs is to preserve the spirit of sport from being undermined by doping. The primary goal of such programs is to prevent athletes from intentionally or unintentionally using prohibited substances and/or prohibited methods. When education is implemented appropriately, it can establish the basis for preventing current and future athletes from doping. This primary prevention approach is the focus of many health-based interventions because preventing an unhealthy/undesirable behavior from starting is more effective than stopping an established behavior. It is widely recognized that adolescence is the best time to intervene in the effort to prevent behaviors like doping from ever starting (2). Generic prevention of doping in athletes should be based on educating athletes at the same time as all other young people and in relation to other *risk behaviors*.

Young athletes rarely train alone. They occupy a wide training community and uphold relationships with their support personnel that can exert a critical and central influence on shaping future behavior. Therefore, it is vital that the young athlete's entourage (parents, coaches, team managers, doctors) are heavily involved in, and take responsibility for, reinforcing appropriate anti-doping messages.

Successful intervention strategies have adopted a comprehensive, multifaceted approach to drug use prevention, addressing a range of psycho-social variables including peer and media resistance training, body image and self-esteem issues and alternatives to drug use.

Analysis of behavioral choices in the field of doping

Man's need to grow and overcome his limits is the basis of our evolution. If this need is no longer controllable it is likely to become dysfunctional and cause of individual and social suffering.

We speak about doping behavior to mean the use of a substance in order to enhance performance in the face an obstacle (real or imagined), which is perceived as real by the user or by the people around him. In this definition, the nature of the substance is of little importance. It can be steroids, vitamins, stimulants like high-dose caffeine, painkillers, extra-proteins, cocaine, etc., and its use can be prohibited (banned by a

rule) or not, illegal (banned by a law) or not, dangerous for health or not. This conceptual inflation of more commonplace definitions is important because, contrary to traditional understandings of doping, it is not the drug that defines the behavior, but rather the reason(s) why this drug is used.

In recent years, medical, psychological, pedagogical and sociological investigations show a strong interest in the deliberate practices of body and mind alteration in adolescents through the use of chemicals or instrumental practices. To describe these interventions the English expression *enhancement* is widespread. The first theme that comes to mind is the use of substances with a doping action which aims to modify the performance or the physical appearance. Literature shows that the phenomenon, that embraces most of sports, both amateur and competitive ones, at different ages, is underestimated.

In the world of sport, the boundaries of doping often invade areas that are different from Olympics, championship, high performance etc. We find doping in amateur competitions, at different ages, from children to adults, in identical percentages to those of professionals. In a gym it is possible to understand that drug abuse has often the aesthetic aim to modify the body image towards unrealistic models proposed by the media.

The doping phenomenon does not regard only the *use* but all the *behaviors and situations* connected to it. The concept of doping behavior has been developed in order to draw important nuances of the doping concept itself.

Doping has been, in the last 20 years, object of several studies focused on both psychological and psychosocial levels.

It is important to underline that in most cases, scientific literature states that doping is an *illicit behavior*, dangerous for health, acted on the basis of a *conscious and deliberate choice* directed to a *Goal.* Doping goals can change according to the different level of sport.

Not surprisingly, therefore, the studies on high-level athletes highlight the objectives of a performance nature and show, in a very general sense, that the objective towards which the doping abuse behavior is directed is that of the increase of performance and competitive results.

Very often, however, the objective found in studies conducted on sports at a young and / or amateur level, or on those who practice exercise at gyms, is of an aesthetic nature or linked to the attempt to bring their body image closer to an ideal image, socially built. Regardless of the specific reasons identified by the literature, the analysis of the use of doping as a goal-directed behavior has pushed researchers to an analysis of the explicit intentions of individuals regarding doping behavior and, in line with some important theoretical models, in search of the antecedents of these intentions. Thus, starting from the first studies on the application of socio-cognitive models to the intention to make use of doping substances (3), the interest towards these aspects in the last years has rapidly grown and has come to consolidate a literature that, starting from well-defined theoretical models according to a "top-down" approach, has addressed the analysis of socio-cognitive predictors of intentions and doping behavior, mainly through the use of self-report questionnaires.

The choice to make use of doping substances, as pointed out by Petróczi (4), can be conceived as linked to a complex system of dynamic interactions between motivations, cognitions, beliefs and moral evaluations, as it was optimally summarized in a recent meta-analysis of the doping literature funded by the World Anti-Doping Agency (5).

A contribution to the understanding of the use of doping derives from the analysis of how this complex system of motivations,

knowledge, beliefs and moral evaluations manifests itself in specific interpersonal situations related to doping.

In conclusion, the complexity of the doping phenomenon as a system of dynamic interactions, which is generated and developed within specific social situations, can be correctly interpreted if we take an approach to research aimed at integrating knowledge of events, facts, contexts circumstances that are associated with a specific behavior (such as doping) with that of the meanings and representations that individuals subjectively attribute to these events, facts, contexts and circumstances (6). For this reason, the anti-doping activity has increasingly turned towards an educational approach that takes into account the complexity of the phenomenon.

Doping and educational strategies

The anti-doping activities of recent years have shifted from secondary prevention to educational strategies focused on primary prevention. This represents a complex of sophisticated preventive strategies for which negative campaigns on anti-doping controls and sanctions do not fit what is required for primary prevention, where positivity and commitment are essential. As a result, investing in evidence-based prevention is fundamental to educate affectively the subjects at risk and their support network, so as to leverage the conscious decision on resilience and rejection ability.

Both quantitative and qualitative research have been and may be of great help in the future, providing data that orient on what specific processes self-regulated you focus your intervention efforts. Among the processes that seem to have an impact on the intention, the perception of external pressures towards doping (Subjective Norms) stands out, especially among teenagers.

It is difficult to act directly on external pressures because it would require an intervention not so much on the subject but also on the context in which it is inserted.

It could be easier, instead, acting on a variable closely linked to it, or on the perceived ability to resist pressure (self-regulatory efficacy).

The development of *self-efficacy* is a topic that has been widely discussed in the literature that underlines the usefulness of programs that include elements of *Mastery*, behavioral experiences aimed at the management of social situations critical for the behavior in question, and of *Modeling*, behavioral experiences derived from observational learning, which develop the individual's self-regulatory and self-efficacy capacity for individual behavior.

Such strategies have a context of elective application within the natural groups, such as school classes and teams and other constituted groups. Another relevant variable is the attitude towards doping, or the relationship between advantages and disadvantages perceived in relation to the intake of doping substances. To change the positive attitudes towards anti-healthy behaviors, such as drug use, several studies have detected how effective is the method of the *peer education*: an approach that allows young people to work with other young people and for other young people, exploiting in a positive way the force of *peer pressure*. Finally, it should be stressed the close relationship between the intention to employ doping substances and the use of mechanisms of moral justification for such behavior (Moral Disengagement). These mechanisms act in the direction of reduction or total elimination of the sense of guilt. The fact that the moral disengagement is strongly associated with the intention of assuming doping substances has a strong application relevance. In particular, considering the plan of communication and dissemination of information on doping - which is often carried out both by media and by key people in the sports world - it must be emphasized that it seems to refer to the pessimistic idea

that "compete without doping has become impossible", that "everyone does it", that "the orientation towards sporting ethics is now alive only in the outdated rhetoric of Olympism".

These ideas, however, risk facilitating the use of moral disengagement mechanisms, freeing the individual from their individual responsibilities on the moral level and thus, paradoxically, fueling the intention to use performance-enhancing substances.

Many of these principles and knowledge have already been applied in both national and international intervention programs in the field of doping. In Italy, the "Prima e Doping" campaign is a typical example of an intervention that, using the tradition of self-empowerment, has used the *peer education* method, actively promoting *Mastery and Modeling* opportunities for high school students compared to the use of doping substances in sport developed by Lucidi and colleagues (7) and promoted by the UISP (Italian Union of Sport for All), the campaign involved around 1,300 young Italian high school students, spread across 28 cities in 11 different regions. The campaign, which had an efficacy evaluation with a control group, achieved the objectives of reducing positive attitudes towards doping and the intention to use doping substances in the future, while on the behavioral side, it led to a reduction in the use of other supplements. Internationally, among the educational interventions on doping that have aroused a great interest, we find the ATLAS (Adolescents Training and Learning to Avoid Steroids) and ATHENA (Athletes Targeting Healthy Exercise and Nutrition Alternatives) programs (8). These are two educational programs developed in America, at the University of Oregon, carried out in schools and addressed to high school students engaged in sports activities. Both programs use *peer education* as their main method, they are interactive, engaging and easy to implement. The success of these programs is also to be found in a work plan that focuses both on the reduction of the main risk factors (*peer pression*, false marketing beliefs) and on the development of different protective factors (adequate training program, nutrition, confidence in one's athletic abilities.

Method

We find *Peer education*, in its simplicity, in many everyday interactions, but it has only recently been considered as a methodology on the world of education in the Italian reality (9). Several approaches are included under the term peer education. A distinction between these concerns: what is believed to be constitutive of the *peerness*, the objectives and methods of the interventions thanks to which we think we can work and finally the nature of *peer involvement* (10). *Peer education* is a widespread concept that embodies an approach, a communication channel, a methodology, a philosophy, a strategy and a process. The English expression *peer education* is popular and of current use at international level in the field of prevention and health promotion.

Recently, moreover, there has been a great interest for prevention actions based on health education and reinforcement of psychosocial competence through *life skills*, defined by *the abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life* (11). Life skills can be addressed by education to contribute to the promotion of personal and social development, the projection of human rights, and the prevention of health and social problems (11). One of the purposes of *life skills education* is to reinforce health skills and behavior, and to prevent or reduce risky behaviors.

Practically, life skills education addresses skills considered to be core skills such as self-awareness, decision-making, empathy,

critical thinking, coping with stress and interpersonal skills, through interactive teaching methods that include role plays, open discussions, situation analysis, small group activities, etc. (12).

For this reason, peer education uses these skills and promotes their development.

A fundamental component of many prevention programs is *self-assertion* and *refusal skills* which constitutes a sub-skill of interpersonal skills, especially in the field of drug and alcohol abuse prevention (13-15), but also doping prevention (16-18). To be effective, self-assertion and refusal skills education requires an active and repeated participatory process. In other words, skills-based education takes time.

Self-assertion strategies enable an individual to express thoughts, feelings, values and rights about a situation openly and directly (19). Many works have concluded that a low self-assertion could be associated with risk behaviors, such as drugs use, eating disorders, or none use of condoms in a sexual relationship (20-22). Some self-assertion-based actions have shown effectiveness in achieving the reduction of psychoactive substances use and abuse, like alcohol or tobacco (23-26) and in achieving self-esteem, an important and well-known factor in mediating behaviors in everyday life (27). What is more is that the Rathus Assertiveness Schedule (28) can easily quantify self-assertion evolution.

Peer education represents a prevention methodology that has turned out to be particularly effective in reducing the main risk factors in the field of drug abuse and alcohol prevention and contains many essential "ingredients" for prevention programs aimed at feeding young people confidence in their abilities, in particular the ability to make decisions in critical situations through the development of self-assertion and rejection skills.

Peer education is interactive and activity oriented. According to the available evidence, effective prevention programs pursue a multifaceted approach addressing the specific needs and circumstances of the target population. Successful interventions aim to influence multiple determinants of behavior, including individual attitudes, knowledge, life skills, motivations, interpersonal relationships and societal norms. Therefore, this section provides an overview of the key characteristics which define effective primary prevention education interventions, most effective when program delivery is interactive-based on an active participation of both the deliverer and the recipient and on sharing, cooperating and contributing (29). The most common methods are role-play, active modelling, debate, simulations, audiovisual activities and discussion.

The peer education underpinned by social influence approaches. The adoption of social learning theory (30) and social influence approaches in the 1980's represented a positive redirection in preventive education. The underlying conceptual framework for social influence approaches is that human behavior is influenced by persuasive messages, often due to a lack of social skills (and/or intellectual defence mechanisms). In this context, individuals will begin to drink, smoke or use drugs because they are targeted with convincing messages (*e.g.*, from the media or peers) which elicit an unhealthy/undesirable behavior change. The theory posits that this change occurs because individuals lack the necessary knowledge or skills to resist this social pressure. Prevention based on this approach generally includes three key elements: basic information, resistance skills training, normative information.

Undesirable/unhealthy behaviors are the result of the interplay between social (interpersonal) and personal (intrapersonal) factors and it's crucial that prevention programs recognize this interaction. Indeed, this is underscored by Bandura (30) as he emphasizes collective agency and the social

origins of an individual's thought processes and behavior. Importantly, learning takes place through a process of modelling and reinforcement from key social actors such as parents and peers.

Peer education emphasizes the development of life skills. The Life Skills Training (LST) intervention is the most widely assessed program in the substance use education field, having a 20-year history of implementation and evaluation (31). Although this approach has several shared features with the social influence approach, one distinctive feature of LST is an emphasis on the teaching of generic personal self-management skills and social skills. Examples of the skills typically included in this approach include: personal self-management skills (managing emotions, achieving goals); social skills (communication, assertiveness); cognitive skills (assertiveness, refusal skills) for resisting interpersonal and media influences; and adaptive coping strategies for dealing with stress and anxiety. Given the consistency of the findings relating to the LST programs, the reviews acknowledge that this prevention program can reduce unhealthy/undesirable behaviors.

Peer education is based on the needs of the target population. If the goal of prevention programs is behavior change, efforts will only be successful if the content of the intervention resonates with the target population and engages them through addressing their specific needs and values. The research literature demonstrates that although it is possible to adapt certain principles from prevention approaches that have been successful in one setting to another setting (32), the prevention approach will only be effective if it is tailored and specific to the social context in which the undesirable/unhealthy behavior occurs. In order to facilitate this process, target groups must be clearly defined, and preventive messages should be specifically developed with those groups in mind. Therefore, when designing education strategies and programs the literature emphasized meeting the following needs: Empirically supported for the target group; Developmentally appropriate and meaningful; Enjoyable and engaging for the participants; Culturally sensitive; Provide a long-term perspective.

In order to meet the first four bullet points, a formative phase is required prior to program implementation. To satisfy the last point, monitoring and subsequent adaptation of program content and design is necessary in order to ensure that it has ongoing relevance for target audiences who are, potentially, developing and changing (31).

Peer education targets young people and adolescents. When primary prevention is the intervention goal, young people and adolescents (typically between 11 and 14 years) are the target audience. This is owing to the fact that most young people are still to establish their beliefs and expectations about these various unhealthy/problem behaviors.

Questions to consider when reviewing current education programs include:

- Are education campaigns specifically tailored to young people?
- Have developmental differences been considered in the design of education materials?
- Is the language and mode of communication appropriate?
- Does the program address the risks that have the potential to lead to unhealthy/undesirable behaviors?

Theoretical approaches ("Nothing is so practical as a good theory" Kurt Lewin)

Theories are important because they are the set of beliefs that underlie action (33). Program theory refers to the mechanisms by which program outcomes are achieved; program theory identifies levers of action. Ultimately, program theory explains the causal links that tie program inputs to expected outputs. It links program resources,

activities and ultimate goals (33). This requires designers to make their assumptions explicit, which offers the opportunity to consider and refine their logic. It is important to acknowledge that theoretical perspectives are continuing to develop. For this reason, the theories we address here may seem dated. This is inevitable given what we now know and that we are reviewing research papers that can be seen as historical records. Contemporary theorizing emphasizes the integration of features from a range of perspectives. This interactionism attempts to reflect the reality of how behavior occurs. Crucially, current thinking about behavior change is that it reflects a variety of interacting factors including the processes associated with change and development, the balance of subjective estimates of reward and disincentives, considerations of social context and relationships and the impact of past experience.

Prior to the 1980s, information dissemination (knowledge-focused) and affective education approaches dominated (34). The knowledge-focused approach, *know-what*, aimed to increase an individual's knowledge about the health implications of problem behaviors (*e.g.*, social drug use). In contrast, the affective education approaches, *know-why,* adopted a broader stance to focus on increasing self-understanding and awareness, and enhancing personal development and self-esteem. These two approaches have assumed that humans are rational and motivated to make sensible choices about their health, given sufficient information (34). The social influences approach emerged nearly three decades ago in the understanding that most decisions are strongly influenced by their social context.

It could be useful to briefly outline the dominant theoretical approaches.

The underlying assumption of *the cognitive approaches* is that knowledge about the health consequences of a behavior will elicit a change in attitudes towards that behavior and ultimately a behavioral action will ensue. The focus of these theories is primarily on the individual and the factors that determine human behavior at any given time.

Among them the *Health Belief Model* (35) *and the Theories of Reasoned Action* (36) *and Planned Behavior* (37).

The logic behind these two strongly related models is that behavior is predicted by a rational decision (intention) and that intentions arise through the attitude towards the behavior, perceptions of the social norms regarding the behavior, and the perceived ease or difficulty of performing the behavior.

It is clear that knowledge provision is necessary, yet quite clearly it is not the most important element in an effective prevention program. Further, knowledge approaches based on fear arousal have been seen as generally ineffective because the message has moral overtones which often do not correspond with the values or subjective experiences of young people (38). Fear-based approaches can also be criticized for creating a strong behavioral desire without promoting proactive, adaptive alternatives. Although knowledge development is necessary, this component needs to be balanced with skill development if the intervention is to be effective in changing behavior.

The *social influence approach* recognizes that the initiation and early stage development of undesirable behaviors stem from direct or indirect social factors. This concept of social influence may arise from *peers*, the media and the family through processes such as modelling and persuasive communication.

Young people and adolescents begin to smoke, drink, or use drugs either because they succumb to the persuasive messages targeted at them or because they lack the necessary skills to resist specific social influences that encourage engagement in undesirable behavior. Social influence approaches provide several of the core

components used in the most consistently successful prevention approaches. A variety of theoretical models are discussed under the term *social influence approach*.

The *social cognitive theory* explains how people acquire and maintain certain behavioral patterns; emphasizing the principle that behavior, environment, and cognition operate together.

This theory emphasizes the social origins of an individual's thought process and behavior positing that "what people think, believe, and feel affects how they behave" (30). Further, collective agency is emphasized because humans live socially. According to the social cognitive theory, the fundamentals need to initiate behavior include observing and modelling the behaviors, attitudes and emotional reactions of others, through vicarious learning. To acquire behaviors through the observation of others an individual must, pay attention, be able to retain or recall events or actions, be capable of reproducing the behavior and be motivated to reproduce the behavior (30).

For Bandura, self-reflection is a prominent feature of social cognitive theory. By engaging in self-reflection individuals attempt to make sense of their experiences, explore their own cognitions and self-beliefs, and in doing so they may alter their thinking and behavior accordingly.

A fundamental component of social cognitive theory is self-efficacy beliefs, "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (30). According to self-efficacy theory, an individual's level of motivation, affective states and behavioral actions are mostly based on perception rather than on what is so. Therefore, self-efficacy beliefs are powerful predictors of behavior as they help to determine what individuals do with their knowledge and skills. Normative education emphasizes the person-environment-behavior interaction which represents the core framework for Bandura's model. As an example, an individual who believes that her peer group is positively inclined towards drug use will, therefore, be motivated to engage in this behavior to gain social acceptance and affiliation. In contrast, an individual who socializes with friends who are disinclined to use drugs is more likely to also be disinhibited through anticipating disapproval from her *peer* group. Many young people over-estimate the extent of risk-taking behaviors amongst their *peers*, they wrongly believe that these behaviors are 'normal' and because of these other misconceptions, they are vulnerable to social pressures to conform to an erroneous *norm* (29).

The Social Inoculation Theory (39) was developed to generate effective "combat techniques" as *resistance to persuasion*. The theory relates to both the persuader and the target of any persuasion approaches. The scale of defence that an individual might offer will develop sophisticated persuasion approaches to find and then exploit weaknesses in resistance. It is important to consider past experiences of (un)successful resistance, patterns of approaches and their effectiveness. At the simplest level, the *Just say no* approach is based on the tenets of the social inoculation theory which assumes that the decision to engage in unhealthy/undesirable behavior is based on the ability to resist peer pressure.

Under the preventive programs the most significant working model with adolescents seems to be the *peer education model*. It is an educative method according to which some members of a group are formed and included in their own group to achieve specific activities with their *peers.* It is an example of a matching relationship based on cooperation ad solidarity among young people.

The *peer group* is recognized as a place where the evolutionary process of adolescents takes place. It is in this place

that *peer education* acts. The *peer education model* follows the concepts of empowerment and personal and collective development and it is linked to dynamic psychology and group dynamics studies.

Thanks to the central role of the *peer educators* this model gives young people the tools for a healthy development of the identity dimension. This is possible within the same space in which adolescents are pulled between the search for their uniqueness, their own thought and the pression to conform to their *peers.*

The modern educational context constantly and continuously forces a renewal of the practical and theoretical approaches in the transmission of knowledge and information related both to educational contents and to preventive and health education issues. In a multidisciplinary perspective, the *peer group* plays an increasingly central role in training and learning, in the growth and development of healthy individuals who possess correct information regarding specific areas of daily life. It is therefore of vital importance to consider the group as an inexhaustible center of information and behavior, in order to act on people in a decisive and productive manner, encouraging them to personal growth, as indicated by the *Social Cognitive Theory*.

In the Italian language and in other languages it does not find an immediate consideration. It is an educational method according to which some members of a group are empowered, trained and reinserted in the membership group to carry out specific activities with their *peers* (9).

This method is used to implement targeted communication between *peers*, which arises from the encounter between spontaneous relational dynamics of the group and the educational action of suitably trained *peers. Peer education* promotes the establishment of a relationship of mutual education, reduces the difference between self and others through direct relational methods and the use of a common language, allows the passage from a two-way communication to a circular one characterized by free access to information. *Peer education* interventions have developed a more cognitive orientation and have adopted more "neutral" approaches to prevention as they tend towards a sub-cultural point of view, that of young people, in order to become, for them, a source of independence, identity and self-recognition (10).

In the seventies, in the United States, *peer education* interventions were organized to stimulate new coping strategies and develop life skills. This revised form of *peer education* boasted on the one hand the traditional theoretical bases, on the other the integration with Bandura's theory of social learning (40) - of which previously we have already extensively dealt with - emphasizing the sense of self-efficacy, which it allows a person to become an "agent" of his life. Self-efficacy is therefore the basis of the concept of effective coping with new challenges, problems or critical life events (41). The main goal of *peer education* is the activation of an essential path of change, the empowerment (42) in the form of increased access to resources for people at risk through environmental adaptation strategies and a greater involvement in decisions within social organizations.

Peer education was tested in England in the early nineteenth century to save on the cost of teaching through the monitorial system. The master transmitted to the monitors, more mature and prepared students, minimal learning elements so that they could transmit them to other students.

Similarly, in the 1960s in the United States, young people of the upper classes were given the task of following the preparation of younger students in difficult situations. In the 1970s it spread mainly with the focus of the change in behavior and development of skills. Subsequently, the *peer education* method was adopted in drug prevention campaigns.

In the 1990s the World Health Organization performed a systematic review of all peer education initiatives in HIV prevention. In the European Union, attention to *peer education* derives in large part from the support given by the European Commission for Health to a specific project started in 1997 which involved many European nations. The experiments carried out gave good results, involving many high school students in the implementation of projects aimed at the prevention of risk behaviors (sex education, HIV, consumption of tobacco, alcohol and psychotropic substances, etc.). Currently this model is used for the communication of preventive messages, using the same language as the reference sub-culture. In Europe the main reference in prevention strategies is Europeer, the European project on *peer education* that aims to prevent AIDS among adolescents in schools and extra-curricular field. In France the Institut National de prèvention et d'education pour la santé supports the methodology of *peer education* in the prevention of dangerous driving (for alcohol, smoking, drugs abuse) and infectious diseases (AIDS, hepatitis, vaccinations, etc.).

In Italy *peer education* is a relatively young and evolving pedagogical practice in its various expressions, activated and tested in most cases by operators of the national health service, social services, voluntary service and secondary school. In recent years, the experiences using this model in working with young people have progressively increased, including the national project launched in 1999/2000 by the Ministry of Education in the Middle Institutes of 20 provinces.

In addition, the program Gaining health in adolescence (43) has adopted the peer education model in two of the six proposed thematic areas: *the peer to peer* model for the promotion of psychological well-being and the *peer education* model for the prevention of STD risk behaviors.

In general, *peer education* develops as a reaction and criticism to traditional prevention models in which vertical communication was adopted, the target audience was often identified with the problem itself, "adult" languages and ways of thinking were adopted with a strict categorization of people.

It is an innovative approach that undermines the traditional role of the expert who transmits concepts that are often incomprehensible, and values perceived as dissonant between the sender and the receiver. Instead, it enhances participative, interactive and spontaneous peer learning methods in which not only the cognitive and rational spheres are considered, but also irrational and emotional aspects. It considers the context and the pressure of the *peer* group acting accordingly on the culture of the group rather than on individual behavior. It adopts a horizontal communication (*peer to peer*) considered more effective, credible and achievable. The *peer education* intervention is based on the importance of the group during adolescence and on a process that is spontaneously implemented through which young people learn different things from one another as part of everyday life (10). It considers *peers* as a potential resource for overcoming development problems: they are in fact in the same phase of the life cycle, they face the same difficulties and can constitute a valid gym for the acquisition of social skills.

The *peer educator*, being in possession of the same linguistic, value and ritual heritage, is perceived as a more credible source (44). Mainly three application models are used: *pure models, mixed models and empowered peer education models*. In projects that use a pure model the work topic (doping prevention) is determined by adults. Training interventions for *peer educators* are brief and codified in a standard "package" of contents and methodologies and tools. The *pure model* is easy to apply, it is possible to verify the relapses, it involves a limited commitment of time for the operators.

However, it presents the limitation of simply training children to bring into their group instances from the adult world.

The *mixed model* foresees a variable selection phase as a typology, a short and intensive training around a theme generally chosen by adults; it differs from the pure model due to the fact that the preparation of the realization phase is left to young people who can have more freedom on the execution modalities. The *empowered peer education* underlines the role of protagonists of the peer leaders in all the phases of the project realization.

At a methodological level, *empowered peer education* is a flexible and dynamic model in which *peers* choose *peers* and identify the health promotion theme they want to develop, taking responsibility for the actions they intend to carry out (44). Svenson (45) states that what is of fundamental importance in *peer education* is the involvement of individuals, which can be implemented thanks to clear explanations on both theory and practice. Involvement aims to increase the motivation to participate in the choice of objectives and actions, to the goal setting (group resource management technique) and to the development of personal resources suitable to the objective through feed-back, support and incentives. Empowerment then consists in making the peer leaders, creators and evaluators of the initiative defined together.

In *peer education* projects the adolescent becomes the main actor of his own growth, the proponent of his own well-being and the subject that at the forefront plays on himself and on other actions to prevent risky behavior.

Peer education is a strategy able to relate, creatively, an adult network geared towards social prevention with the youth world, its cognitive and affective dynamics and its communicative codes; it is not a vertical approach in which the peer represents the "megaphone" of a message formulated by adults. *Peer education* is a process which lead to transmission, exchange and sharing of information, values and experiences between persons of the same age or belonging to the same reference group.

Peer Education's tool of action allows to produce the development of specific skills in *peer educators*, but also in the target group of young people involved.

The moment when operators choose within a group of young people a small number of guys to be trained to become a *peer educator* is very delicate and can compromise the success of a good part of the project.

All young people can become *peer educators*. The essential element is the motivation to take part to the program for a good period of time.

The most valued qualities of a *peer* are the ability to communicate, be available and tolerant, knowing how to question yourself, sharing ideas and curiosities, problem solving and making decisions skills, be able to ask for help and do not be judgers.

Summing up, *peer educators* are "*people with a common interest who are trained to develop appropriate knowledge and specializations and to share this knowledge, in order to inform and prepare others and to disseminate similar skills within the same interest group* "(45).

The guys are given the operation of the interventions and the quality of the content to be proposed. The Working Group must adhere to the main objective of the project: to produce changes in the school, to increase the social and health welfare of the students who attend it.

It is important to help future *peer educators* to build up the idea of their role in the project, the contribution that is required and the commitment to achieve the goal. Adolescents must perceive themselves as subjects who, through the experimentation of positive activities within the peer group, will be able to produce a change.

The goal of *peer educators* will not be to teach young people, rather to transmit their own experiences and feelings and to pose themselves as a model that undertakes informed choices, which discusses and confronts the relationship with *Peers.*

Leveraging on the same linguistic heritage, value and ritual *peer educators* convey in an easily accessible and attractive way the content they want to communicate.

In the group of *peers*, perhaps for the first time in a positive sense, young people will have the opportunity to recognize each other through confrontation and debate, in the same way they do so with the approval in clothing, makeup, or aggressive behavior.

There are several themes to which the method of *peer education* can be applied and concern the socio-sanitary problems in which adolescents can run into the everyday life.

From the analyses carried out on the liking of the subjects involved, *peer education* seems to be considered a pleasant and interesting method of conducting prevention. The boys feel valued and at the center of attention, they believe they have learned new notions and perceive a development of their communicative and relational skills. However, the evaluation of a preventive program cannot be based only on the liking of adolescents.

Overall, the evidence of the studies in question seems to suggest that *peer education* can be more effective and incisive than the interventions carried out by adult experts, despite the analytical and methodological uncertainties indicating that the data is not fully demonstrated.

Peer education does not work if *peers* are only a tool in the hands of adults who decide which strategies should have the program, without asking the recipients of the intervention; It does not work if the programs are focused exclusively on the passage of information and neglect aspects of relational and affective type; it does not work if you realize short-term *peer education* interventions that do not allow the establishment of complex processes that characterize it.

Results

Our model of *peer education* applied to the prevention of behavior at the risk of doping was born within the project *"Prevention of DOPING: development of a permanent instrument of education coordinated by the Prevention Departments of the National Health System"* (46, 47). The aim is to test new health promotion pathways aimed at doping prevention and the abuse of supplements, relevant phenomena among young sportsmen and gyms goers.

The intervention aims to train health professionals of Prevention Departments of the sector and managers of youth associations to the model of the education stack and to the methodologies best suited to promote sport and the anti-doping culture. In a perspective of empowerment, it is necessary to make young people more aware of risk behaviors and possible alternatives to supplements.

Taking inspiration from the peer education model adopted for the prevention of STIs in the context of the Health Gaining Program in Adolescence, work has been started to adapt to the different contents and to the different *application settings*.

This directly involved potential users in a process of co-construction of the new training package aimed at activating a *cascade training process* on the knowledge and skills of *peer education* in youth gathering contexts, such as schools, gyms, sports associations, social gatherings of all kinds.

The first moment was the realization of a highly interactive workshop attended by *many experts:* biologists/nutritionists, medical hygienists, sport coaches, psychologists, teachers of motor sciences of secondary school

and other stakeholders. We have chosen these figures as experts in the realities on which we intend to intervene that have, a different title, direct experience of the phenomenon integrators/substances, of the circumstances, of the actors, of the paths, of the kind of people who use it. The workshop aimed at defining *together*, in a participatory design perspective, the emerging learning needs.

Through focus group and brainstorming on precise stimulations, knowledge, ideas and suggestions about content have been collected, regarding the most suitable contents, methodologies and tools for structuring and articulating the training course for trainers. The aim is to transmit the knowledge and skills necessary to activate interventions for the prevention of doping through *peer education*.

We report below the work summary sheet that reports verbatim, without any elaboration, the suggestions and training contents emerged from the workshop's working groups.

Workshop "The construction of a peer education model for the prevention of doping"

Proposed Brainstorming:

- who are the stakeholders to be involved?
- what are the reasons for the use of "help" in the gym
- the actors of the phenomenon
- which settings and targets to intervene in
- which are the effective tools
- critical issues to be addressed and resources to be developed

Suggested content and methodological ambits

- Amateur sport activity and use of supplements / substances / drugs
- Diet - nutrition and sport: paths of natural "integration" through food
- Agonism-competition and self-image: life models
- Life skills education to develop / enhance basic cognitive, emotional and relational skills towards the awareness of one's own resources and the reappropriation of responsibility towards one's own health (empowerment) and the acquisition of "positive" behaviors
- Food behavior and health: awareness and self-care
- The meaning and value of risk behaviors and transgression in adolescents.

The summary of the group work

Three working groups were given the task of identifying a figure in the supply chain and, putting themselves in his shoes, imagining his training proposal.

Group 1. Sports science teacher and artistic roller skating trainer:

a. Who is the preadolescent and the adolescent today

- Lack of reference in the family
- School increasingly delegitimized
- Individual increasingly alone and closed to the world
- Consequential behaviors:
- Aggression
- Bullying
- World closure (Hikikomori)
- Complicated affectivity
- Feel the demands that are always too demanding
- Inability to ask for help
- Not knowing who to ask for help
- Feeling misunderstood
- Trust what gives me the strength to pass the tests
- Socially at risk behavior

*b. Educational vision of spor*t

- The group as a strength and protection point
- Subject who has a necessary part in the group
- You don't win alone
- Respect wins
- Play clean and without tricks

- Accept your limits and try to overcome them fairly
- Socialization

c. In the school

- To leave out the sport linked only to the result, but to give space to that of experience, experimentation and trial, to learn to accept one's limits and defeats.
- Encourage work that leads to overcoming these limits.
- No one is excluded from the group, the weak and the different must be considered as added resources, because their inclusion gives value to the expressed sports action.
- The school evaluation should not be based on performance but on the ability to get involved, try and measure oneself in order to be able to pass the tests with one's own strength and with the support of the ***group to which one belongs.***

Group 2. Nutritionist biologist

A correct food program aimed at the athlete is aimed at two levels of intervention:

- Contain any individual deficiency states (clinical-diagnostic aspect)
- Evaluate the difference between sports in the specificity of the athletic gesture and the type of physical commitment (energy expenditure and salt water).

An integrative diet for a cross-country or cross-country athlete is different in terms of quality and quantity from that programmable for example in a sprinter.

Experience teaches that great athletes have reached top levels simply through a level of self-control proportionate to their motivations (need to express themselves at high levels) in a healthy life, with the right nutrition and the right hours of rest.

A healthy life goal is also the one that those who practice amateur sports are aiming for, in this case the possibility of intervention is apparently more facilitated, especially if particular competitive needs do not occur.

The cultural limits that a sports nutritionist must face today, are above all those related to the erroneous idea that chemical supplements, even so to speak of natural origin, can be more efficient and replace a correct balanced diet.

We will see the strategies that can be implemented on a biological / food level in a practical way, because they are directed to specific areas of application.

Group 3. Federal Coach

"In my experience the possibility of achieving team results in youth, where often the differences in physical structure in peers is particularly evident, is totally based on the emotional aspects of the group".

So, an implicit rule is in gaining the ability to compete with anyone, even with those who "on paper" would appear stronger.

Friendship and constant help towards the less strong teammates, self-discipline and loving exchange of positive inputs, where respect for the adversaries is an integral part of that careful work aimed at the smallest details also on the technical and physiological work of the sport practiced.

The logic of winning at all costs requires strategies and stratagems that impoverish the experience of sports. Training to win is something different from training to improve both as a person and as an athlete.

Training only to win means being more inclined to fall into traps pre-packaged by the "system", how much it structures the false culture of the need of the chemical integrator. Instead train yourself to improve both as people and as athletes directs you to victory over your limits, and this is the medal that will remain etched for life, a lasting self-recognition, which goes far beyond what the competition field, with these premises, it will then surely offer.

What has emerged has allowed to design and subsequently organize the *training course for trainers* that has been proposed to a group of operators from the world of sports, health and territorial associations interested in acquiring specific knowledge on the model of *Peer Education.*

The formative objective was to enable the participants to reproduce the model and to activate health promotion intervention for the prevention of doping each in the places of youth aggregation of their competence, school, area sports, community).

Thanks to the basic skills of the participants during the course were collected additional elements useful to calibrate the intervention of *peer education*. A kind of *working progress* of the training package through the discovery of possible different registers in relation to specific setting of application (the school, gym, territorial association, etc.)

Finally, the intervention on the final target aims to foster the development of personal skills in young people to provide them with knowledge on the doping phenomenon and on the main instruments of *peer education*, train them to design and implement *peer* initiatives to promote the active participation of their *peers* in preventive actions.

The age of young people to involve in training as *peer educator*, goes from 15 to 17 years, in order to have an adequate level of maturity to assume the burden of conducting interventions of education and to adequately fulfill the commitments towards the companions to whom they are addressed. In addition, at this age they have also acquired an adequate ability to orient themselves well in their environments of reference in which they will play their role of *peer* and where they will still remain for a few years.

This section summarizes the training path of the *peer educators*. The training follows an isomorphic path to that of the cascade trainers since, in both levels, the training process represents a moment of personal experimentation and learning of the adopted educational tools and, at the same time, an opportunity to learn to use them and teach them in turn.

"Transmission, exchange and sharing of information, values and experiences between people of the same age or belonging to the same social group".

General objectives

- encourage the active participation of young people / athletes in actions to prevent the abuse of doping substances
- train peers on the risks associated with the implementation of risky behaviors and encourage the development of personal skills
- design and implement peer initiatives
- promote the participation of young people in the scholastic, sports and aggregation sphere.

Expected results

- Inform and form groups of children to become peer educators
- Re design and produce health promotion messages
- Promote interventions among peers
- Identify the synergies between the figures involved in each area of intervention: / instructors, / company:
- adolescents, teachers, school management, non-teaching staff, health workers, etc.
- athletes, instructors, company management, support staff, health professionals, etc.
- equivalent figures in other gathering places: parishes, associations, spontaneous groups, etc.

The role of adults

Adults involved in peer education projects must play the role of "process facilitators" and will have to work with adolescents:

- in a collaborative way, respecting the centrality of their role
- not dropping ideas and suggestions from above and not influencing peer decisions
- taking action, as much as possible, to make the awareness-raising interventions designed by the health promoters feasible
- collaborating with each other by overcoming their own specialization.

Peer educator training

All the contents proposed during peer training have the dual function of facilitating processes and dynamics to stimulate the learning group and at the same time allow future peers to acquire those same tools to apply them in turn and facilitate the dynamics and relationships of groups of young people in which they will operate.

I part dedicated to group dynamics and to favourite the creation of a welcoming atmosphere

- activities that promote mutual understanding and group cohesion (animation techniques, role-playing games)
- sharing the objectives of the project
- definition of the "training agreement" (sharing "rules")
- bring out opinions, values, prejudices, knowledge of each one (brainstorming, role playing, etc.)

II part dedicated to training-self-training on the themes of the project

- identify the topics to be investigated (effects, risks, consequences, etc.)
- consult multimedia material (cd rom, movies, advertising, etc.)
- meetings with experts (pharmacologist, nutritionist, etc.)

III Part Planning of interventions between peers

- comparison of peers on the different types of intervention
- definition of intervention, contents, activities, messages, didactic support tools (videos, leaflets, posters, comics, role-playing games, etc.)
- training of peers on communication techniques based on interventions designed by peers
- simulate the interventions or general test.

Conclusion

Through the cascade training and dissemination of this model we expect the construction of a network of professionals in the community and an active involvement of adolescents through the production of multimedia material that can be used in work with *peers.*

The intervention aims to teach young people to consciously orient themselves on the use of food, supplements, substances aimed at improving performance or physical appearance, avoiding influences and conditioning; create a culture of sport as an opportunity to socialize and as a practice for psycho-physical well-being beyond results and recognizing one's own limits.

"First of all the person who chooses"

In very young people, an authentic health promotion strategy requires interventions to develop the person's ability to make conscious decisions regarding his own well-being as a whole and avoid risky behavior.

In Peer Education: *"People with a common interest are trained to develop appropriate knowledge and specializations and to share this knowledge, in order to inform and prepare others and spread similar skills and abilities within the same interest group."* (45).

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

Riassunto

Strategie di peer education per promuovere in diverse fasce di popolazione la prevenzione del doping

Introduzione. Nell'ambito della prevenzione del doping, accanto alle tradizionali funzioni di repressione e controllo del fenomeno, assumono un rilievo sempre maggiore gli aspetti educativi. L'articolo 18 del World Anti Doping Code obbliga i firmatari ad investire nell'educazione antidoping con l'obiettivo di preservare lo spirito dello sport. L'impegno educativo dovrebbe coinvolgere i giovani in interventi di promozione della salute per la prevenzione dei comportamenti a rischio. Pertanto, l'attenzione si è focalizzata sulla ricerca dei meccanismi che portano le persone a fare determinate scelte comportamentali.

Metodi. Nell'ambito dei programmi preventivi, per contrastare il fenomeno doping attraverso percorsi di promozione della salute, il metodo riconosciuto tra i più efficaci è la peer education in particolare con gli adolescenti.

È un metodo educativo in base al quale alcuni membri di un gruppo vengono responsabilizzati e formati a realizzare precise attività con i propri coetanei. Si costituisce come esempio di relazione paritaria e trova le sue basi nella cooperazione e nella solidarietà con l'obiettivo di incrementare l'empowerment e un sano sviluppo della dimensione identitaria e collettiva nei giovani.

Risultati. Numerosi addetti ai lavori - biologi/nutrizionisti, medici igienisti, allenatori sportivi, psicologi, insegnanti di scienze motorie della scuola secondaria e altri stakeholder hanno partecipato attivamente alla co-costruzione di un pacchetto formativo finalizzato all'attivazione di processi di formazione a cascata in merito alle conoscenze e competenze della peer education nei contesti di aggregazione giovanile: scuole, palestre, associazioni sportive, ritrovi sociali di ogni genere. Il percorso ha consentito di definire un modello di peer education capace di mettere in grado i partecipanti di attivare interventi di promozione della salute per la prevenzione dei comportamenti a rischio del doping ciascuno nel proprio setting.

Conclusioni. In conclusione, possiamo affermare che i programmi di prevenzione risultano tanto più efficaci quanto più sono rivolti a giovani ed adolescenti e prevedono interventi interattivi ed orientati all'azione. Iniziative di successo, mirano ad enfatizzare lo sviluppo delle life skills e ad influenzare numerose determinanti di comportamento, compresi atteggiamenti individuali, conoscenze, motivazioni, relazioni interpersonali e norme sociali. Se l'obiettivo è agire sul cambiamento di comportamenti, gli sforzi avranno maggiore successo se il contenuto dell'intervento terrà nella dovuta considerazione il cotesto in cui si applica ed entrerà in risonanza con la popolazione target, coinvolgendola ed affrontandone bisogni e valori specifici.

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