

# **Diagnosis of Brazilian School Teachers about the Prevention and Use of Crack by the New Communication Technologies**

**Maykon Anderson Pires de Novais**

Department of Informatics in Health (1)

**Márcia Mello Costa De Liberal**

Department of Medicine - Discipline of Economics and Management in Health (1)

Center for Humanities - Faculty of Social and Applied Sciences (2)

**Paola Zucchi**

Department of Medicine - Discipline of Economics and Management in Health (1)

**Solange Aparecida Nappo**

Department of Preventive Medicine (1)

(1) Federal University of São Paulo (Unifesp)

(2) Federal University of Western Bahia (Ufob)

## **Corresponding Author:**

Paola Zucchi - Rua Botucatu, 740 – 4º andar, Vila Clementino, CEP: 04023-900, São Paulo/SP, Tel.: (11) 5576-4848, e-mail: [pzucchi@unifesp.br](mailto:pzucchi@unifesp.br).

## **Abstract**

*This article presents a study on awareness about the use of illicit drugs, more specifically crack, first seen as a health problem, allowing a reflection on the possibilities of improvement in the training process for professionals in the area of education, with emphasis on the public network. Based on the information obtained by the research carried out with a sample of teachers, the massive availability of databases and scientific journals is a salutary alternative to the dissemination of scientific and systematized knowledge. The populations studied are part of a region concentrated around centers of excellence in research and dissemination of information through Information and Communication Technologies as innovative tools at the service of educational institutions in this multidisciplinary initiative. The study leads to a worrying reality, considering the importance of the professionals studied in the prevention and care to the drug user in the figure of the student.*

**Keywords:** Crack; Prevention; Teachers; Technologies.

## **1. Introduction**

One of the most important social problems today concerned to the abusive use of psychoactive substances. In Brazil, crack cocaine, which has defined as a "devastating drug" due to its physical, psychic and social effects, stands out. The easy access and low cost made the drug a worrying dimension for Brazilian public health, especially in large urban centers, such as in the metropolitan region of São Paulo. However, crack has been breaking social and geographical barriers, becoming a specific challenge for educators regarding the prevention of their use and the treatment of addicts. Among the difficulties to deal with this issue is the need to improve the qualification of primary and secondary school teachers, who play a great role in preventing the consumption of addictive chemical substances.

This training faces difficulties that go beyond the knowledge of scientific concepts. In this constantly changing scenario, fast, complete and reliable information must be available and accessible to education professionals, so that they act based on reality, respecting the peculiarities of the place where they intend to intervene. Information and access are paradigms that penetrate the reality of individuals in a predominant way, which builds paradoxes. The construction of more effective preventive actions, with the aim of minimizing the problem of drug abuse, will depend on the type of information that one has on the subject, favoring attitudes more tolerant or more restrictive, depending on the constructed archetype.

In the educational environment, Information and Communication Technologies (ICTs) have become present even more, either indirectly, when the student brings with them their smartphone, or when the institution provides technological means to mediate education. The latter seems still to be an objective to be achieved due to the preconceptions and limitations that professionals have in using technological resources to mediate teaching-learning practice. The fact is that, if well used, these technologies bring to the educational environment a pool of possibilities that seemed unthinkable in the context of traditional technologies such as chalk and blackboard. It is unquestionable that with the information processing capabilities of today's computers, any educational process becomes even more dynamic.

This kind of challenge imposed on education professionals is confronted with the reality lived in many institutions, mainly public, that are deprived of preparation and technological material to accompany the transition from a content reality to one in which the formation of new knowledge is predominant. For Ayres, Araújo and Kamimura [1], education today, more than ever, needs to be rich in resources, empowering its public to build new knowledge and develop their capacity to think, create, express themselves, participate and decide. Therefore, it is questioned how education professionals use ICTs in their training and updating of knowledge. Most developed countries are investing in the use of ICTs in schools and in the renewal of educational projects.

It is important to emphasize that ICTs equipment infrastructure, Internet access, increased professional training and content creation and digital learning methods, are part of this financial incentive. At the end of the 2000s, it was possible to begin to recognize in Latin America a series of advantages that ICTs can bring to education, whatever the pedagogical model adopted. Data from the United Nations Educational, Scientific and Cultural Organization - UNESCO (2010) state that investments in Technology and

Communication, geared towards educational projects, are increasing in the countries of Latin America and the Caribbean.

In Brazil, government initiatives to encourage the use of information and communication technologies in Brazilian public schools date back approximately 1996. This means that the Brazilian governments took a long time to promote concrete actions in this area. In particular, in the last decade, all governmental spheres have instituted public policies aimed at the digital inclusion of the population in Brazil. It is worth mentioning the joint actions of the federal and state governments through initiatives such as the National Program of Informatics in Education (Proinfo), which has implemented internet access in public schools. According to the Unesco Report (2015), the entity aims to cooperate with the Brazilian government through the dissemination of ICTs in schools, with the purpose of improving the quality of the teaching-learning process, considering that digital literacy is a natural consequence of the frequent use of these technologies. In this context, the Ministry of Education had the goal of universalizing computer labs in all public schools by 2010, including rural units. Unesco also supports and cooperates with the TV School Program, with the aim of exploring and encouraging the convergence of digital media, seeking to increase the interactivity of television content used in face-to-face and distance education for almost the entire national territory.

This reflection about the use of ICTs is justified by the physical, psychological and social consequences of the consumption of crack for its consumers, as well as the enormous burden generated for them, since they require that the professionals involved in their fight have access to up-to-date and fast information in order to achieve success in their actions. Regarding the use of psychoactive drugs, the literature shows that access to information is deficient and that the use of the technological resources currently available in the area of informatics, with a view to incorporating new knowledge and research, is very timid. It should be emphasized that these new technologies can be a support alternative to improve this situation, since its use has been previously conceived and improved by education professionals, which, it is believed, optimizes the use of information.

The drug theme is a multidisciplinary content, but it has an emphasis on the discipline of biology, directly in a very brief way. There is an informal dissemination of this theme on related subjects. As most content transmitted through formal education in schools at all levels is fragmented and sterile knowledge, unrelated to the real life of children and adults, the educational process, rather than being formative, becomes times in a bureaucratic ritual of memorizing and repeating useless information that penalizes the most creative and non-conformist people. The most fervent adepts of this critical view of education have gone so far as to decree the end of formal school, proposing its replacement by a variety of informal, spontaneous and non-hierarchical mechanisms for transmitting knowledge and developing creativity and competence on a personal level. However, just as the formal school cannot promote social progress alone and reduce social inequalities, its elimination could have the same effect, further increasing the serious socio-economic problems we face today, including, in this case, the use of crack by students, especially in public educational institutions.

Nowadays, in order to become a reality, the idea of the Welfare State that prevails in developed countries needs to rethink and review the needs of the generation of adults and a new generation of young individuals, children and adolescents, with a view to the implementation of a democratic education. Education, then, is

not for society but the means by which it prepares the essential conditions of existence itself in the innermost parts of children [2]. Still, according to the sociologist, the main function of the teacher is to educate citizens capable of contributing to social harmony. In his conception, education aims to elicit and develop in the child physical and moral states indispensable to the political society as a whole.

Following this line of thought, if education is detached from the historical context, it tends to become merely the exercise of individual will and development, which for Durkheim was incomprehensible: "How can the individual intend to rebuild, through the only effort of his private reflection, which is not the work of individual thought?". He himself replied that the individual only acquires the capacity to act insofar as he learns to know about this scenario, to identify its origins and the conditions on which it depends to interact socially. This is not possible without him attending school and beginning to observe the raw material that lies there to be stoned. Through his contribution to the development of world-level education, the sociologist Durkheim can be considered one of the mentors of the republican ideals of a public education, monopolized by the state and secular, thus free from the influence of ecclesiastical doctrines.

In this way, the objective of this study is to present the teachers' perception of the Brazilian basic cycle about crack, including the level of knowledge about the drug and the way the teachers approached this subject. This description contributes in a singular way to the understanding of the phenomenon in the educational universe and generates concrete hypotheses about the influence of one actor over the other in this universe crack and education.

## **2. Materials and Methods**

For this study, the qualitative methodology were chosen, since some characteristics of this method help the development of this work, as well as the scientific knowledge as a product of a "constructive-interpretive" view [3, 4]. It consists of a new way of looking at the empirical world [3] and the data cease to "speak for itself". The interaction between the researcher and the object of study is indispensable for the production of knowledge [4], and finally, the significance of the singularity as a legitimate level of knowledge production: singularity constitute as a differentiated reality in the history of the subjective constitution of the individual [4].

For some analyzes, descriptive statistics were used to represent the relative frequencies of sample characterizations. The understanding can be describe through the discourse of teachers of the Basic Cycle (Middle and Elementary Education), the sources they use to inform themselves and the knowledge they have about the technologies of access to information. The study was composed of education professionals. The study sample followed the intentional precept. The qualitative approach does not favor the numerical criterion and does not seek a statistically representative sample [5]. Therefore, instead of randomness, was chosen the purposeful or intentional sampling [6], choosing as participants those who experienced the social phenomena under study, the so-called information-rich cases [7], seeking the largest possible variety of cases within the sample, in order to contemplate the different perspectives of the phenomenon.

The sample size was not determined a priori, that is, before the start of the study. The participants were selected in a continuous way until the theoretical saturation point was reached, at which time the

information became repetitive, redundant or recurrent [7, 8, 9]. The ideas conveyed by one participant that had already been reported by others and the inclusion of new participants did not result in additional insights or information that could indicate new perspectives of the phenomenon, indicating that selection should be discontinued [7]. Although the sample is not statistically representative, it does not mean that the sampling process has not been systematic [7], being defined through the adoption of special sampling techniques [6]. One is sampling by criteria, the so-called inclusion criteria. Whereas the present study analyses the social phenomenon as the identification of the sources of consultation in the universe of ICTs, used by education professionals of the Basic Cycle to aid in the formation and updating of knowledge about crack. It includes also the exchange of experiences and development of health education programs, the criteria were: education professionals involved with the drug / crack theme, with origins in the public and private network with working time in the area for more than two years and different ages.

It was been considered that the realities of public and private networks are different in terms of information, and the possibility of younger professionals having a greater identity with technologies have led to a differentiation of age groups. The two-year period in the teaching profession was a measure of safety in the sense that the newly enrolled in the profession was not included in the sample. The sample selection came from the participants in the metropolitan area of São Paulo, the largest city in Brazil. For the recruitment of education professionals, the strategy was to list two initial professionals - the gatekeepers - who started to indicate the others in the selection process. We define gatekeepers as those who collaborate to find the interviewees, who have some connection with the target population, facilitating the approach of the researcher with this population [10]. Therefore, education professionals were necessarily teachers of Science or Biology, depending on their participation in the educational process.

The gatekeepers indicated the first interview. After the identification and selection made by this group of professionals, the chain sampling technique was applied [6]. Within chain sampling, a special case is the technique of snowball sampling, or "snowball" [6, 11]. Biernack & Waldorf [11] described it as follows: the first respondents will present the second ones, these the third ones, and so on. Different chains of interviews were been studied as many as necessary to understand the theme, according to the saturation point. To ensure a sample with a different profile was been taken that the intra-chain components were similar and the inter-chains, quite diverse, unrelated [6].

The main resource in qualitative research is discourse. Speech is revealing of structural conditions, of value systems, norms, symbols [12], emotions, anxieties and anxieties [13]. In this sense, the interview consists of an interactive tool in which the establishment of the investigator-researched bond fulfills an essential function in the quality of the empirical indicators produced [14, 3, 4, 15]. The great advantage of the interview is that it allows access to feelings, thoughts and intentions, capturing the desired information in an immediate and current way, allowing corrections, clarifications and adaptations [15].

With the participants of the sample by chains, a semi-structured interview was been conducted that was characterized by the use of an interview with themes/questions that helped the researcher. As a formal interview, the semi-structured, has been an open character, but the interviewee focused exclusively on the proposed theme, constantly controlled by the researcher so that this condition was preserved. This type of interview allowed flexibility to the researcher who withdrew or introduced new questions according to the

findings that he was making throughout the interview and the need for deepening [16].

The analysis of the results defined as content was based on the procedures of organization and interpretation of the data as suggested by Bardin [17] and had as instrument facilitator, mainly for the organization of the data, the NVivo software. For this reason, the interviews were been recorded, with prior agreement of the participant, and each recording was duly identified. Then the transcription process began, which took about an hour, each. Since transcripts are raw data, they do not provide explanations, so they need preparation and interpretation procedures. Therefore, the transcripts were been submitted to a rigorous analysis process, following the floating readings (each interview was been read and reread, allowing the investigator to get in touch with the material). The exploratory procedures employees in order to allow hypotheses about the phenomenon to begin to emerge; preparation of the material: stage in which the interviews were been divided and regrouped according to the script questions.

During this process, first, each interview was been coded, that is, it was broken up according to the script. The printed reports were been evaluated individually and transformed into thematic tables, in order to allow the treatment of the results. The thematic tables contain a summary of the experiences and points of view of the interviewees, allowing the abstraction and synthesis of the data. Finally, through the thematic tables, concepts were been defined, mapping the nature and extent of the phenomenon, creating typologies and associations, in order to obtain results and hypotheses regarding the subject of study of this research. It is important to emphasize that the process of mapping and interpretation was been influenced by the original objectives of the study, as well as by the themes that emerged from the analysis process.

As suggested by Patton [6], we chose three forms of triangulation: techniques used in data collection (snowball technique with individual interviews); data source data analysis (categorization and inference by two researchers). Such procedures guarantee the reliability and validity of the qualitative data that will obtained. In this research, triangulation occurred with the presentation of the results so that two other independent researchers - selected by the principal investigator - could do the methodological process of reading and preparation, which consists of the classification of the testimonies. The study was been submitted and approved by the Ethics Committee of the Federal University of São Paulo, under number 0632/11.

### **3. Results**

From the large sample, 30 teachers from the Basic Cycle (Elementary and Middle School) from public (14 teachers) and private (16 teachers) schools were interviewed. The performance of teachers in the extracts of the Basic Cycle was 33% working only in High School, 23% working in Elementary School II and 43% in Elementary and Middle School. When asked about the frequency with which they approached the subject of "drugs" with their students, they all stated that they approached it when the specific content was been reached in the curricular matrix of the courses or when they lived the reality of having some of their students exposed to this circumstance. Unanimously, the teachers said they deal sporadically with the theme.

Asked if they knew the crack and what they could say about it, all respondents said they had heard about the drug. However, they gave superficial detail about what they knew about her. When they said: "they had

already heard about the drug", they report that this contact was been made through the students - "students usually talk about crack" - or the media - "this is constant, in all means of communication nowadays talks about it "; "I've heard of it. The media also notice this almost daily"; "Yes, I have heard of news, study objects, too". When asked what they knew about the drug, participants described several elements, which were been summarized in frequencies in Table 1.

**Table 1 - Frequency of knowledge about crack**

Knowledge	Frequency	%
Causes addiction	16	33%
Causes organic damages	11	22%
Cost of acquisition	7	14%
Social effects	5	10%
Origin of the drug	4	8%
Psychic effect	3	6%
Know nothing about the drug	2	4%
Forms of use	1	2%

It is possible to observe the greater frequency of citations refers to the capacity of dependence of the users, followed by the ability of the drug to cause damage to the organism. Some words are constant, such as: "from the moment one starts using this type of drug, right, crack, I think it's very difficult for him to get out, right, not impossible, but difficult"; "It's a highly addictive drug". Some have the perception that little use is already capable of inducing addiction: "I also know that the user, from the first time he uses, he feels addicted, he already has a habit addicted to consuming more. Interviewees were been asked how they did the professional approach to crack in the classroom. Of the respondents, 32% do not approach the subject with their students, even though it is predict in the curricular matrix of the Basic Cycle.

**Table 2 - Frequency of answers about the professional approach of teachers of the Basic Cycle.**

Answers	Frequency	%
Guidelines on Drugs	11	39%
Development of educational projects	4	14%
Does not address the issue	9	32%
Real situations	2	7%
Use of teaching materials	2	7%

Participants, for guidance on drugs, describe that they professionally approach the subject of "crack" in order to guide their students about the drug. In no instance has there been a pharmacological or psychic citation, but rather the orientation regarding the family and social harm that the drug brings to the individual, highlighting concern and advice so that students do not engage with drugs in general. Another group of quotes on types of professional approach deals with the development and use of educational projects to expose the harms of crack and drugs in general. Probably, this generalization is due to the curricular matrix

approach the drug theme in a generic way and there is no specific concern with one or another type of drug. No major reason for not engaging the professional in the work with this theme was been highlighted. However, it was been noticed discreetly, through the speech of these participants, that there is no preparation to develop the subject with the students.

It was noticed the insecurity of the professional when approaching the subject in function of the possibility of the speech to the students to be interpreted as apologia to the drug and, in this case, instead of to prevent the use, to stimulate it. It was also been observed that when there is a discreet performance of the professional, this is accompanied by an empirical and very personal comment of the teacher. The teachers interviewed also use real situations, lived or not, close to them, to create a working tool with their students, as it was been observed. Associated to this exists the reality for some institutions and professionals where the student, even young, has already have been involvement with drugs or, in particular, with the crack.

In these cases, there is a fear of the teacher in approaching the subject with greater tranquility so that the subject does not become personal to the student. The subject "drugs" is approach in the curricular matrix of the Basic Cycle, officially, in a summarized and discreet way, but it is present in didactic material. However, there was a very fraction of citations made by education professionals when approaching this resource as one of their technical tools for use in their professional life. The teachers of the Basic Cycle were been openly questioned about the sources of information they used to inform and train about crack.

Table 3 shows that the majority of the sample (35%) reported using the Internet as an information tool, generating a predominance of the use of this tool as a source of access to information. We did not detect which sites are been used, however, by the interviewees' description, only internet search engines are used. It was also been observed that there is no tendency for younger professionals to have more affinity with the internet than older ones.

**Table 3 - Information source for crack training**

<b>Source of Information</b>	<b>Frequency</b>	<b>%</b>
Internet	20	35%
General Media (Newspapers, Television, Magazines)	14	25%
Books	7	12%
Third-Party Experiences	4	7%
Teaching Material	3	5%
No Search Information	3	5%
Health Professionals	2	4%
Academic Works	2	4%
Religious Group	1	2%
Courses	1	2%

For the 5% frequency of citation on information source, Didactic Material represents the pertinent content to the curricular matrix of the students of the Basic Cycle. Already for the three participants who cited the textbook, it was clear that this is the only source of information used to get information about crack: "well, we get material from the State, right, didactic material". Within the group of didactic materials, the books were been remembered for 12% of the citations described and reflect a tendency of the teacher to use the didactic material. Therefore, in the variable "Books" the researcher understands that the interviewee refers



in fact to the didactic material offered.

With the highest percentage of citations (35%), the internet was been declared mostly as a source of information about crack. Despite the generic internet citation, respondents refer to the Internet as tools, search engines, which make available and take to different sites, information websites. As perceived in the previous question, for some professionals the empirical experience is a great source of information and access to the theme. These reports were present for these professionals, especially for their contact with a needy public. After the internet, the general media (newspapers, magazines, television) was the source most cited by the interviewees (25%). For them, these sources are the most used for training and access to information about crack and other types of drugs.

After they were been questioned about the sources of information that the teachers used to inform themselves and to train about crack, they were asked about the reasons for using these channels. According to Table 4, it was been observed that, for 39% of respondents, ease of access, in general, is the main reason. This ease of access is associated with Internet users as a source of information.

**Table 4 - Reasons for searching the specific crack information**

<b>Reasons</b>	<b>Frequency</b>	<b>%</b>
Ease of Access	9	39%
Reliability	6	26%
Greater clarification	4	17%
Specific Content	4	17%

When they say that reason is enlightenment (17%), they refer to the breadth of information that channels offer. It is also been noted that the internet is again referenced as a source of quality. That is, it offers not only ease of access, but also breadth of information. In the variable "Greater Enlightenment", the media in general (newspaper, magazines and television) is also highlight. It was also mentioned the capacity of the television to generate specific content and that this facilitates the capture of information.

The second most cited reason, reliability (26%), was the ability of the information vector to generate reliable information. For those interviewed, this is a good reason for choosing sources of information.

There is also a specific criticism that the internet is not a reliable source of information and that other media (television, for example) are more discerning. However, another participant pointed out that "[...] on the internet the information is more up-to-date. The books, in this case, are more like this, in fact, are so magazines of information that we receive from the board of education to work for us". When questioned about facilities or difficulties in the mentioned channels of information, respondents remember the internet more often. The centralization of citations to the internet and its characteristic of easy access to the information are out of the other percentage of frequency. It was been noticed that the quality of the information is not an item reinforced in the citation of the teachers.

**Table 5 - Facilities and Difficulties - Information Channels**

<b>Reasons</b>	<b>Frequency</b>	<b>%</b>
Ease of Access	10	42%
No Difficulty Level	4	17%
Erroneous Information	4	17%
Need to Confirm Information	4	17%
Quality of Information	1	4%
Updated Information	1	4%

For 17% of citations, there are no difficulties or problems in the use of information channels. This information is reinforced in the speech of these participants: "In fact, I found no difficulty at all. On the contrary, I found it super simple, the search and the result". Just one quotation emphasized the timeliness of the information available on the internet. In this quote are the enhancement of quality in the ease of access to the media and its opposition to other media. It was also been reminded by the participants that the internet contains many erroneous or unreliable information. In the participants' speech, it shows how difficult it is to use this channel.

For 42% of the citations in this question, which indicated the internet as a medium of access to information, the ease of access stood out as a relevant perception. There were described numerous possibilities for easy access to information and how to disseminate it among students are described. Another relevant point was the association, the interview, the ease of access, the technological resource and the age of the students: "I think that use the internet is an easy reach channel for students and their interest in technology". "Well, I think that, like everything else, on the internet, the facility is very large, if I click there, it will be easier to use the Internet search engine as a tool for optimizing the location of the information". "If I put the subject in a subject finder there, you're going to have a list of a million subjects involved in it". It can be seen that the interviewees (56%) tended to state that the mentioned channels offer complete information, which makes them feel satisfied, qualified or well informed (Table 6).

**Table 6 - Effectiveness of communication channels in providing information**

<b>Effectiveness</b>	<b>Frequency</b>	<b>%</b>
Provides Information	14	56%
Provides Partially	6	24%
Leaves something to be desired	5	20%

The remainder is divided into those who feel partially informed and empowered and those who report that the media offer information of dubious quality, failing to provide the training and good information they deem necessary. Those who cited being well informed or empowered with the chosen medium of communication referred to the internet as media. Among the justifications described to corroborate this assertion is the dynamism of circulating information on the internet: "Well, from what I saw, in my opinion I do not think there are any. Even because they always so reporting new and discovered things. I think it's always recycling what's there."

It is also reveal the dynamics of updating the internet as a factor of importance in the training and in obtaining information for the participants of this research. Among those who stated that the aforementioned means of communication partially provide information, the main justification lies in not all the information provided by television or even the internet: "Sometimes what you, for that particular subject that you find, maybe yes, not totally, but be it, but there is still something more that you cannot find". There is a consideration that the channel should be improve and the information more willing: "I think it helps a lot, but could be improved, should have more information, because there is still little, especially on crack". For the 20% who say they find their media deficient in providing information and/or enabling them, they cite mainly the internet - similar to those that consider it efficient - as the main media that leaves something to be desire, not considering others, such as television, newspapers or other channels.

Table 7 presents the clouds of citation on what respondents consider necessary for good training. It is important to point out that for 31% there is no need for additional training, since the resources they already use, be it the television, the newspaper or the internet, already enables them.

**Table 7 - Resources that the interviewee considers necessary for their training**

Resource	Required Frequency	%
Satisfied With Current Assets	8	31%
Specific Courses	7	27%
Educational Lectures	4	15%
Professionals Specific to Educate	4	15%
Living in a Truthful Situation	2	8%
Greatest Pedagogical Approach in Thematic Crack	1	4%

In the 15% who mentioned the need for lectures, it was notice that they felt the need for a greater interaction between community, school and participants: "had to have lectures, had to have projects, right, on the subject of crack inside the school, calling the parents and the community". In general, these interviewees cited "talk" as a simple resource that could favor information and professional qualification. Following those who stated that they were satisfied with their communication and training channels, those who mentioned the need for specific courses (27%) came. They complain about the shortage of courses offered to teachers, mainly in the public network and the lack of time of these teachers to dedicate themselves to this modality. They still justify the little preparation to deal with the issue pointing to the lack of opportunity to attend a course that addresses the drugs theme.

The obstacles cited by the interviewee, difficult to solve, distract the teacher from a more adequate training. Another lack observed was the existence of a specific professional, already qualified, who could offer this training. There have also been citations that teachers, in particular, demand from other professionals such as, for example, those in the health area to have a specific training when they consider it necessary. It has realized that these professionals are insecure to address specific issues. Respondents asked about the use of information resources beyond what the institution offered. The comparative analysis between the interviewees and their corporate origins demonstrated a dichotomy of responses. Among teachers in public

schools, a statement was predominant that the institution does not offer resources for training. Already, among the private institutions, the internet has predominated as an auxiliary tool for seeking information.

**Table 8 - Tools used by teachers besides what is offered by the institution where they work**

Resource	Required Frequency	%
Internet	10	37%
Institution does not provide	10	37%
Diverse Media	3	11%
Children's Books	2	7%
Third Party Experience	2	7%

The internet emerges as a great resource for searching, even when considered complementary. The current school model does not consider the digital insertion in the classroom, so for teachers, the possibility of accessing online environments in the institution is an important resource. There is also the perception that the internet has democratized and consolidated access to information. For 37% of the declarations, the institution does not provide additional resources. As stated earlier, public school teachers converge on these discourses.

Three citations (11%) aimed to seek information in the media, such as television, newspapers, magazines and others: "television, newspaper, magazines, professionals who somehow have contact with people who use this kind of narcotics or information beyond what they is disclosed". When questioned about the existence of student questions, all the teachers interviewed said that they are a stimulus to improve their searches on the drugs theme. However, once again, when the origin of work was analyzed (public or private), there was a perception that the statements differ.

For the teachers, the questions that are eventually been asked by the students are difficult to answer at the time, due to the lack of knowledge of the subject by the faculty. An account presented the reality lived by a professor with the crack, in which he observed that the drug was part of the daily of the students. They often live in an environment where drugs are an integral part of people's lives. This fact does not arouse curiosity in the students, and there is no questioning about the subject. In that context the drug is not see by them as "invasive". On the contrary, it is a normal fact, accepted by the society in which they live.

#### **4. Discussion**

In spite of the emergence of several technologies, the educational methodology has undergone little modification. The implementation of educational methods that benefit well from the digital technology tools available at the beginning of the 21st century is not observe. This is corroborate by Faria, Souza and Fernandes [18]. According to these authors, the origin of computer science in Brazil occurred in the 1970s, and since then, teachers have been resistant to new teaching/learning models, fearing that they will be replace by machines and, often, not know how to work with them. When it comes to drugs, the need for constant updating of the professional involved in their prevention or treatment is essential. The changes

occurring in drug-using cultures strongly influence the severity of the social, organic, and psychic complications suffered by users [19]. Crack, the subject of this study, is a very convincing example of this statement. A number of changes, promoted by users, trafficking and others, have been changing the way drug use and behaviors are relate in Brazil [19].

Considering these peculiarities of the internet as a source of information, it is observe in this study that, although the internet is common among all interviews, the drug information sites used, and especially on crack, differ between key informants and education professionals. ICTs have described a peculiar phenomenon of access to information. For this public, the information referred to as good quality focuses on specific sites, which are far from a not so specialized audience. The Internet, in the view of these informants, is a resource that optimizes the process by searching for information and makes the relationship with timeless knowledge. In this context, Moran [20] justifies that there was a change in the paradigm by the key informants when searching the web, through specific information sites, the basis of their repositories of data and information, that is, the information passed from the printed for the digital.

Education professionals said they did not fully trust the information available on the internet. For about 28% of respondents, the distrust in the information deposited in the internet or in the media to which they have access is a question of the fragility of these channels. In considering the risks that information found on the internet offer, information specialists have been developing checklists with criteria and indicators, in an attempt to establish minimum standards of quality [21]. The drug theme, along with other themes involving health and education in human health, is been foreseen as a "Cross-Cutting Theme" in the National Curricular Parameters of the Ministry of Education (1998).

They are consider "transversal" themes, since they should be consider concurrently with the regular disciplines, such as Sciences (Basic Education) and Biology (High School), and in multidisciplinary projects of the school institution. In the approach, the drug theme includes the illicit ones, which allows the teacher to contemplate the subject in the classroom and to extend the citizenship education to the students of the Basic Cycle (Primary and Secondary Education). That way, the approach declared by teachers about the drug/crack theme in the specific contexts of contents that are being treat in the classroom becomes natural. It was also been observed that the drugs under debate varied according to the sphere of education (public and private) and to the region of the school location. According to the teachers' own testimony, private schools are face with more socially debated drugs, such as marijuana, and are distant from crack, which was perceive as a sanitary problem in public schools located in the outskirts of the metropolitan region of São Paulo.

The VI National Survey on the Use of Psychotropic Drugs among Elementary and Middle School Students, held in the 26 Brazilian Capitals and the Federal District [22], points out that the use of crack among students of public schools is higher, in terms of percentage of students, than in individuals, which corroborates the perception of this study. The population of teachers in the study focused on teachers of Science and Biology as a function of the didactic material of these disciplines to favor the approach of the transversal theme and be the first people to approach health topics with the students. In addition, the theme Drugs appears in the programmatic content of these two regular subjects. At no point in the approach, the

method of exposure to the drug problem was been questioned, but its citation in the school context was questioned.

There was unanimity among education professionals in claiming to have "heard" talk about crack. The contact was has been make through different channels, but the media was the main vehicle of information, regardless of its specificity. It is important to emphasize that the didactic materials of consecrated authors of the Basic Cycle do not mention crack directly, but rather, drug classes in which this drug can be included. Specific questioning about drug knowledge reflects common sense, capacity for dependence, low cost, and social effects. These spheres were empirically observe about the media's use of drugs, whether written or spoken. Sodelli [23] points out that preventive education programs based only on information about the drug and its negative effects are ineffective, with the intention of harming and frightening adolescents and young people. This overarching discourse of the prohibitive model, based fundamentally on the harmful effects of the drug and the intolerance of its use, in the "drug war" has long been unrealistic.

Drugs, among them crack, are the product of a social phenomenon that needs understanding by multiple facets. Scivoletto and Morihisa [24] state that there is a consensus in the scientific world that the use and abuse of psychotropic substances are multifactorial (bio-psychosocial dimension) and that the main factors involved are curiosity, pleasure, group influence, social pressure, social isolation, low self-esteem and family dynamics. However, teachers do not seem to have any idea of this multifactorial dimension that influences drug use, focusing almost exclusively on drug-related factors such as degree of dependency and cost of acquisition, noting internal factors that interfere with their decision to consume.

This finding represents a poor view of the real consequences of the drug and its perfusion in the individual universe of its users. Access to information is dynamic and complex, exposing students and teachers to different concepts and data on drugs. It is up to the fully qualified teacher to offer a secure orientation of information and access to it, mitigating the erroneous paths that students may be expose in their immature training phase. Ferreira et al. [25], analyzing the perception of teachers of public and private education on drugs, detected a worrisome picture regarding the obtaining of information by these professionals, who obtained it through consultation and reading from lay sources and personal experiences, leading to erroneous and misleading visions of drugs. For Moreira, Vvio & Micheli [26] it is fundamental that there is an acceleration of the growth and the quality of the public systems of education, health and social assistance. These authors argue that social protection should be consider as a fundamental lever for the eradication of poverty and misery, to national infrastructure.

In the universe of the professional of the education, several can be the strategies of approach of the subject, not being punitive or merely citatory. For Pedrosa et al. [27], preventive actions to use drugs to minimize risk behaviors are based on the autonomy of the educator and the students, a task that need to be performed by various sectors of society. The school has an ideal universe for prophylactic work related to drug use. In it, the option of frank debate, exposure and discussion of cases and possibilities, driven by the presence of the teacher, can confer a significant and still unmeasured measure of drug disuse. It was not the objective of this study to evaluate the teacher's condition in relation to this theme. However, it is very important to observe that there is an initial lack of preparation of education professionals on topics such as drugs, and on crack in particular.

In the educational universe, the basic disciplines do not contemplate access to this theme. The textbooks are limited to presenting the unique characteristic of the drug and its direct effects, but do not discuss with the student the totality of the consequences that the use of these substances entails to the individual. In the case of the Internet, it is the source of crack information prevalent among educators. In their speeches, it is not explicitly defined which Internet tool they refer to, but, indirectly, this feature is a search engine like Google. Already, the media in general is another niche of absorption of information common to these two populations. This finding leads to an indication that the sources are not systematized and do not have a qualitative origin that can be measured.

The empirical knowledge also supported the aggregation of knowledge and information by the populations. For educators, the quotation from personal experience is been taken as a secure source of information. This condition consolidates the idea that the population studied is been based on non-systematized information and conduct their professional actions in these parameters. The mass media are the main source of information and research for a large part of the population, interfering in the production of meanings about health and disease and reaffirming traditional models and practices that are often discriminatory, but can also act as important allies in promotion, prevention and protection of health. Thus, the way in which the media defines and presents subjects is a powerful instrument of political power and persuasion [21]. Unfortunately, the information coming from the school was been considered by the students as unreliable, according to Sanchez et al [28].

The ambiguity of the use of digital media is in preference for the use of these channels at the same time that lack confidence in these media. The main characteristics of the communication channels chosen by the study population were been related to ease of use: "viability of access" and "reliability". The media converge: the internet and news and television media. It is clear that, although the general search channels are similar, the specific sites differ. This nuance is not explicit in the indicators, but appears in the interviewees' statements. The phenomena associated with the search for information are been considered in this analysis. Educators report ease in the use of technology, a condition dissociated from factors such as age - which could indicate a pre-provision of generation in the use of technologies - but associated with the complementation of information found in basic didactic resources. These resources, however, are not very dynamic, and the internet compensates for the lack of dynamism.

Ferreira et al. [25] identified those teachers, because of the lack of information and the fear of not having answers to solve the doubts of the students, showed insecurity and inability to deal with the prevention of drug use, avoiding the subject in class. The fact that these professionals use information sources, which have been demonstrated throughout the text as poor and without compromise with the scientific base, can contribute to perpetuate stigmas published by these sources, making it very difficult for the social inclusion of crack users [29]. Thus, it is urgent that information on drugs and especially on crack have quality, be reliable, based on scientifically proven foundations and encompass all components that interfere with drug use, which goes far beyond it in isolation. The scope of the study allowed us to conclude that the sources of information about crack are diverse, but focus on digital technologies, especially on the Internet and its specific tools.

In general, respondents say that they often access this information from their homes and less frequently in their work environments, that is, in educational institutions. The drug theme, along with other themes involving health and education in human health are foreseen as a "Cross-Cutting Theme" in the National Curriculum Parameters of the Ministry of Education [30]. They are being considered "transversal" subjects, since a set with the regular disciplines, such as sciences (Elementary School) and biology (High School), as well as in multidisciplinary projects of the school institution should be contemplated. In this approach, the drug theme includes illicit ones, which allows the teacher to contemplate the subject in the classroom and to extend the citizenship education to students of the Basic Cycle (Elementary and Secondary Education). Thus, the approach declared by teachers about the drug/crack theme in the specific contexts of contents that need to be treated in the classroom becomes natural. It was also observed that the drugs under debate varied according to the sphere of education (public and private) and in the region of the school location too.

According to the teachers' own testimony, private schools are being faced with more socially debated drugs, such as marijuana, and are distant from crack, which was perceived as a sanitary problem in public schools located in the outskirts of the metropolitan region of São Paulo. The VI National Survey on the Use of Psychotropic Drugs among Elementary and Middle School Students in the 26 Brazilian Capitals and Federal District [21] points out that the use of crack among public school students is higher, in terms of the percentage of students than in private individuals, which corroborates the perception of this study.

It is worth mentioning that the population of teachers in the study focused on teachers of science and biology because of the didactic material of these disciplines present pertinence to the approach of the transversal theme because these professionals are the first to address the health-related issues with the student body. In addition, the drug issue appears in the programmatic content of these two regular subjects. In this sense, it is important to emphasize that, at no point in the approach, the method of exposure to the drug problem was being questioned, but its citation in the school context was questioned.

## **5. Conclusion**

The realization of this study allowed an in-depth reflection on the possibilities of improvement in the training process for educational professionals in the prevention and in the fight against the use of crack by the students. Based on the data observed by key informants, the massive availability of databases and scientific journals is a salutary alternative to the dissemination of scientific and systematized knowledge. Although this is not the main objective in the teaching process, the engagement of schools and educators is necessary, since the educational process cannot be treated as an isolated process of the serious social and economic problems. These conditions interfere in a negative way in the cognitive aspects involved in the transmission and assimilation of the programmatic contents by the currently proposed curricular guidelines. Thus, the scope of the study allowed us to conclude that the sources of information about the use of crack are diverse, although they are concentrated in the digital technologies, mainly in the internet and in its specific tools. It was also possible to make contact with the fact that those of education are not solidly trained in a solid way on this topic of study. In view of the above, it is urgent that in Brazil a task force



is advance through a National Policy on Drugs, which, in its bases, thanks to the way it was been built, seeks innovative actions to address this issue, adopting a concept of harm reduction and assigning value to socio-educational actions. As a result, it is necessary to put into practice a multidisciplinary program capable of collaborating with the different scientific areas, in order to fill the absence of humanistic approaches on this subject. In addition, an effort to focus the most important information produced by the academic world on the prevention and use of crack on a specific site, tailored to educators in the public network, would be of great value, since most of them use the internet for your frequent searches.

It is in this context that ICTs stand out as the most up-to-date and available tools for the task force to promote unity, with a view to greater social and educational engagement. On the other hand, after identifying the unscientific way in which crack/drug information is reached by these professionals, one can expand this difficulty to other areas of knowledge that are ahead. This is a worrying assumption in order to promote the distortion of knowledge that is been installed among the education professionals selected for this article. This flaw serves as a justification for Brazil's extremely low position in the world ranking. When basic education is considered and, on the other hand, the significant position in terms of scientific production in this area of knowledge needs to be review and properly focus from now on in relevant issues in the current conjuncture of great complexity for solving the problems of Brazilian society.

## 6. References

- [1] Ayres, M. A. C., Araújo, E. A. Sd, Kamimura, Q. P. Influência e inclusão das tecnologias da informação no processo ensino-aprendizagem. *Latin American Journal of Business Management*. 2015;5(2178-4833).
- [2] Durkheim, E. *Educação e Sociologia*. São Paulo: Melhoramentos, 1980.
- [3] Carrillo, E. R. Lo cualitativo en la investigación y su actualidad. *Psicología para América Latina*, n. 2, p. 0-0, 2004.
- [4] Madureira, A. F. D. A. *A construção das identidades sexuais não-hegemônicas: gênero, linguagem e constituição da subjetividade*. Dissertação de Mestrado, Instituto de Psicologia, Universidade de Brasília, Brasília, 2000.
- [5] Pope, C.; Ziebland, S.; Mays, N. Analysing qualitative data. *British Medical Journal*, p. 320, 2000.
- [6] Patton, M. Q. *Qualitative Evaluation and Research Methods*. London: Sage Publications, 2002. 530p.
- [7] Victora, C. G.; Knauth, D. R.; Hassen, M. D. N. A. *Qualitative research on health: an introduction to the subject*. Tomo Editorial, 2000. ISBN 8586225169.
- [8] WHO. World Health Organization. *Qualitative Research for health programmes*. Geneva: Division of Mental Health, World Health Organization, 1994. 102p.
- [9] Duarte, R. Pesquisa qualitativa: reflexões sobre o trabalho de campo. *Cadernos de pesquisa*. 2002;115(1):139-54.
- [10] Creswell, J. W. *Qualitative Inquiry and Research Design: choosing among five traditions*. Thousand Oaks: Sage Publications, 1998.
- [11] Biernacki, P.; Waldor, D. Snowball sampling—problems and techniques of chain referral sampling. *Sociological Methods & Research*, 1981.
- [12] Minayo, M. C. D. S.; Sanches, O. Quantitativo-qualitativo: Oposição ou complementariedade? *Cadernos de Saúde Pública*, v. 9, n. 3, 1993.

- [13] Ribeiro, E. T. Introdução à Metodologia da Pesquisa Clínico-Qualitativa Definição e Principais Características. *Revista Portuguesa de Psicossomática*, v. 2, n. 1, p. 93-108, 2000.
- [14] Britten, N. Qualitative research: qualitative interviews in medical research. *Revista BMJ*, v. 311, n. 6999, p. 251-253, 1995.
- [15] Nogueira-Martins, M. C. F.; Bógus, C. M. Considerações sobre a metodologia qualitativa como recurso para o estudo das ações de humanização em saúde. *Saúde e Sociedade*, v. 13, n. 3, p. 44-57, 2004.
- [16] Denzin, N. K.; Lincoln, Y. S. Introduction: The discipline and practice of qualitative research. In: (Ed.). *The Sage Handbook of Qualitative Research*. California: Sage Publications, 2005.
- [17] Bardin, L. *Análise de Conteúdo*. 3ª. Lisboa: Edições 70, 2004.
- [18] Faria, I. G.; Souza, L. D. F. R.; Fernandes, E. A. Métodos informatizados contribuem para o ensino da Matemática: utilização do geogebra para o ensino de geometria - Revisão bibliográfica. *Revista Eletrônica de Educação e Ciência*, v. 5, n. 1, p. 65-70, 2015.
- [19] Oliveira, L. G.; Nappo, S. A. Crack na cidade de São Paulo: acessibilidade, estratégias de mercado e formas de uso. *Rev Psiquiatr Clín*, v. 35, p. 212-218, 2008.
- [20] Moran, J. M. *Novas tecnologias e mediação pedagógica*. Papirus Editora, 2000.
- [21] Lopes, I. L. Novos paradigmas para avaliação da qualidade da informação em saúde recuperada na Web. *Ciência da Informação*, v. 33, n. 1, p. 81-90, 2004.
- [22] Carlini, E. V. Levantamento Nacional sobre o consumo de drogas psicotrópicas entre estudantes do ensino fundamental e médio da rede pública de ensino nas 27 capitais brasileiras: 2004. In: (Ed.). *V Levantamento Nacional sobre o Consumo de Drogas Psicotrópicas entre Estudantes do Ensino Fundamental e Médio da Rede Pública de Ensino nas 27 Capitais Brasileiras: 2004*, UNIFESP Centro Brasileiro de informações sobre Drogas Psicotrópicas, 2005.
- [23] Sodelli, M. A abordagem proibicionista em desconstrução: compreensão fenomenológica existencial do uso de drogas. *Ciência & Saúde Coletiva*, v. 15, n. 3, p. 637-644, 2010.
- [24] Scivoletto, S.; Morihisa, R. Conceitos básicos em dependência de álcool e outras drogas na adolescência. *Jornal Brasileiro de Dependência Química*, v. 2, n. 1, p. 30-33, 2001.
- [25] Ferreira, T. C. D., Van der Meer Sanchez, Z., Ribeiro, L. A., de Oliveira, L. G., Nappo, S. A., Ferreira, T. Percepções e atitudes de professores de escolas públicas e privadas perante o tema drogas. *Interface-Comunic, Saude, Educ.* 2010;14(34):551-62.
- [26] Moreira, A.; Vóvio, C. L.; De Micheli, D. Prevenção ao consumo abusivo de drogas na escola: desafios e possibilidades para a atuação do educador. *Educação e Pesquisa*, v. 41, n. 1, p. 119-135, 2015.
- [27] Pedrosa, S. C. et al. Educação em saúde com adolescentes acerca do uso de álcool e outras drogas. *Revista de Enfermagem do Centro-Oeste Mineiro*, 2015.
- [28] Sanchez, Z. M. et al. O papel da informação como medida preventiva ao uso de drogas entre jovens em situação de risco. *Ciênc. Saúde coletiva*. Rio de Janeiro, vol.16 supl.1, 2011. <http://dx.doi.org/10.1590/S1413-81232011000700058>.
- [29] Romanini, M.; Roso, A. Or Reinforcing Relations Of Domination? Medios Y Crack: ¿Promoviendo Salud O Reforzando Relaciones De Dominación? *Psicologia: Ciência e Profissão*, v. 32, n. 1, p. 82-97, 2012.
- [30] Brasil, M. *Parâmetros Curriculares Nacionais: terceiro e quarto ciclos do ensino fundamental: introdução aos parâmetros curriculares nacionais*. Brasília: MEC/SEF, 1998.

**Copyright Disclaimer**

Copyright for this article is retained by the author(s), with first publication rights granted to the journal. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>).