

**Interface vol.4 no.se Botucatu 2008**

## **Significance of corporal practices in the treatment of the chemical dependency**

**Significados das práticas corporais no tratamento da dependência química**

**Significados de las prácticas corporales en el tratamiento de la dependencia química**

**Giuliano Gomes de Assis Pimentel<sup>I</sup>, Edna Regina Netto de Oliveira<sup>II</sup>,  
Aparecida Paulina Pastor<sup>III</sup>**

<sup>I</sup>Department of Physical Education of the State University of Maringá  
<[ggapimentel@uem.br](mailto:ggapimentel@uem.br)>

<sup>II</sup> Department of Pharmacology of the State University of Maringá  
<[ernoliveira@uem.br](mailto:ernoliveira@uem.br)>

<sup>III</sup> In Memoriam (22/06/1969 - 27/01/2007).

**ABSTRACT**

The aim of this study was to analyze the *social representations* of addicted or chemically dependent women and the contribution of physical exercises and body activities to their recovery process and reinsertion into society. Fourteen women hospitalized in a rehabilitation institution were interviewed and observed in relation to their participation in a physical fitness program (*corporal practice*), systematized in the form of games and physical exercises. Their reports and practices revealed contradictions between their sensations, reasons or justifications, and perspectives related to the use of their own body. Based on the results, an attempt was made to understand how the social life conditions mediate the way such women organize themselves in benefit of their own health.

**Keywords:** Body. Health. Chemical dependency. Corporal practice. Physical Education.

## RESUMO

O objetivo deste estudo foi analisar as representações sociais de mulheres dependentes químicas sobre a contribuição das práticas corporais em seu processo de recuperação e inserção na sociedade. Quatorze internas de uma instituição de tratamento foram entrevistadas e, também, observadas em relação à participação em um programa de práticas corporais, sistematizadas na forma de jogos e exercícios. As falas e práticas demonstraram contradições entre sensações, justificativas e perspectivas em relação ao uso de seus corpos. Com base nos resultados, se buscou compreender como as condições sociais de vida medeiam o modo pelo qual essas mulheres se organizam em benefício de sua saúde.

**Palavras-chave:** Corpo. Saúde. Dependência química. Práticas corporais. Educação Física.

## ABSTRACT

The aim of this study was to analyze the social representations of women with chemical dependence, regarding the contribution of corporal practices towards their process of recovery and reintegration into society. Fourteen women hospitalized in a treatment institution were interviewed and observed in relation to their participation in a corporal practice program, systematized in the form of games and exercises. Their words and practices showed contradictions between feelings, justifications and perspectives with regard to the use of their own bodies. Based on these results, it was sought to understand how the social conditions of their lives mediated the way these women organized themselves to benefit their health.

**Key words:** Body. Health. Chemical dependence. Corporal practice. Physical Education.

## INTRODUCTION

The use of drugs is influenced by multiple aspects, thus it is difficult to predict what sort of people and behaviors will lead to drug consumption and addiction. If the complexity of factors is inherent to this problem, it is not surprising that it is necessary to provide different forms of treatment, and, among these, it is important to mention educating the chemically dependent individual concerning leisure through recreational corporal activities or practices (Gimeno et al., 1998).

Without losing sight of a multidisciplinary perspective and one based on *social representations*, the present study explored the meanings that are present in women's attitude when joining a physical fitness program in the form of games and gymnastics/body exercises as a treatment for chemical dependency. Thus, the present investigation stimulates reflections concerning how the participants see themselves in relation to the physical fitness program established for their recovery process.

This study focused, particularly, on the way the imaginary of these female patients organizes their perceptions and how scientific and therapeutic discourse related to physical fitness or body practices justify such perceptions, predominantly, by using a biological and functionalist approach. In the recovery process, there is widespread belief associating the consumption of liquids to body effort. It is known that perspiration is a vehicle for the excretion of drugs and their catabolites (Kidwell et al., 1997). Thus, the desired effect is the increase of perspiration and, consequently, the excretion of these chemical substances through perspiration.

## METHODOLOGICAL ASPECTS

The research was characterized as a participant-observation process. Thus, it was necessary to plan activities in consonance with the group under study. In general terms, the intervention consisted of physical fitness exercises (*corporal practices*): exercises to eliminate localized fat deposits (localized exercises), aerobics, body push ups, adventure games and recreation activities, for a period of seven months. The total physical fitness program was performed at a recovery clinic for addicted women, over a total of fifty five classes. The intervention program was conducted twice a week, with each session lasting an hour.

The population observed in the study consisted of chemically dependent women in a process of recovery developed by a philanthropic institution in Maringá, PR. All individuals came from families with income lower than four minimum wages (roughly US\$ 1200). They were literate, however, the youngest participants in the group had interrupted their studies at high school, and one of them had given up Higher Education due to drug consumption. In relation to the type of drugs used by the participants in the study, several substances were identified, reported in decreasing order: alcohol, cocaine, marijuana, with cases of association of all three types.

Other drugs also mentioned on a smaller scale were: tobacco, heroine, ecstasy, quinine and caffeine. Fourteen women (14) from 19 to 51 years-old, all in recovery phase and admitted to an internship program, took part in the investigation. All of them consented to participate in the study, after being guaranteed anonymity and in this report they received numbers from 1 to 14.

In addition to direct observations, structured interviews were also performed with the individuals at two moments during the study. The first diagnostic moment was determined to identify the sample group, the causes that led the individuals to use drugs and the types of drugs consumed. Previous information regarding physical, sports, artistic and recreational activities practiced in their free time was recorded and also their impressions on how Physical Education could contribute to the health of the group. During the second moment, discussions were developed regarding the representation of the women investigated concerning their bodies and in relation to the changes in their bodies as a result of the physical exercise program undertaken.

## **RESULTS AND DISCUSSION**

When discussing the specific contribution of the corporal practice program led by Physical Education professionals, the women studied highlighted the vision of effort as a form of warming up the organism, consequently leading the body to expel chemical substances via the perspiration process, although several facets of the program were mentioned. A significant part of the population analyzed (62.5%) was able to remember, exclusively, the catabolic action, as shown in their reports: ‘Yes, because it is said that perspiring is good for eliminating toxins from the body’ (Interviewee 1); ‘It helps to expel chemical substances from the body, and exercising occupies our mind’ (Interviewee 5); ‘It helps in the elimination of toxins’. (Interviewee 6); ‘It may contribute to eliminating toxins from the body’ (Interviewee 8).

However, one question remained: ‘In relation to the biochemical and physiological aspects, will the representation of the catabolic effect of exercise correspond to reality?’ The fact that the use of alcohol and illicit drugs may be diagnosed in samples of blood, urine, hair, saliva, fatty tissue, skin, perspiration and other tissues (Behrensdoerf & Steentoft, 2003) is due to the presence of this sort of drug in these tissues, or of compounds resulting from their catabolism. Although it has been known for a long time that drugs can be excreted by perspiration, no reports exist on studies that have quantified the action of such physical activity in the recovery of chemical dependents as a function of greater elimination of drugs by perspiration.

The various mechanisms by which drugs may be secreted into sweat include *passive diffusion* of the drug from the blood to the eccrine or sweat glands and *transdermal migration* of the drug through the skin (Huestis et al., 1999; Follador et al., 2004).

The concentration of drugs in perspiration varies due to a series of factors, among which is the concentration of drug in the blood and the intensity of perspiration (Huestis et al., 1999). Considering passive drug diffusion from the blood stream to perspiration, the practice of a physical activity as part of the therapeutic process would lead to an increase in blood flow and, consequently, in perspiration, thus increasing this via of drug excretion, along with any catabolites.

When questioned on the origin of such knowledge, the women interned in the recovery clinic revealed that it involved concepts acquired from biomedical speech or writing found either in magazines or in treatment institutions. Actually, such information seems to be present in several contexts, as shown by the response of Interviewee 12: 'I learned that at college; and in this recovery clinic. I've read in books that physical activities should be a priority, since it assists in the treatment of chemically dependent people.'

It is surprising, however, that the school context is the locus for this kind of theoretical knowledge concerning health, especially Physical Education classes. This common-sense construct regarding sport not being treated as a drug and, therefore, contributing to the acquisition of health and maintenance of youth far from addictions, places Physical Education classes before school prevention campaigns against the use of psychoactive substances. Though the information is widespread, the contents related to corporal culture are reduced to social or physiological functions.

One difficulty in the hegemony assumed by this subject concerning preventative action against drug consumption, is that it may assume this problem based exclusively on one point of view (and, which is worse, from only one approach), thus showing a tendency to seek only one cause, a single causality.

When the female interns, the subjects of the present research, were asked about their leisure activities before they became chemically dependent individuals, they referred to physical and sport activities, such as walking, court-sports and reading. Although the quality of both walking and court-sports may be questioned, their participation in corporal practices or physical fitness programs and their access to information seems not to have shielded or protected them from drug consumption and dependency, particularly, alcohol and cocaine, the drugs referred to as the most consumed.

The interviews with these female chemical dependents suggest, among other aspects, that they attribute the main reason for the abuse of and dependency on substances to the *individual component*, relating drug consumption to a person's personality. Since they used to exercise themselves and were well-informed on the theme, these women blamed themselves for such abuse of drugs; they assumed responsibility for their present situation. Observation of such attitudes confirms that in spite of the multicausality of the disease, people affected tend to associate responsibility to a specific cause.

Although they were not asked to reflect upon aspects such as hereditary, socioeconomic problems and the influence of context for developing drug-dependent behavior, the interns indicated several dimensions in a rank -

genetics, religion, society, community, family, individual commitments - when referring to the intervention conditions in their recovery process. In this case, the recovery institution encourages patients to plan their lives during and after institutionalization concerning different aspects, such as family and community life, job/work, leisure and spirituality.

According to Helman (2003, p. 27), in individuals under treatment, an automation in the social body image and in personal health condition is observed; several components are always in conflict that never achieve equilibrium. For the author, just as Western Society sees individuals as autonomous, the body is seen as a junction of each of the parts that may be worked without threatening the survival of the whole.

According to this separation of the body and its functions, the study pointed to a different aspect of Physical Education in the group of chemical dependents investigated. As previously mentioned, the contribution of physical exercises is most often related to perspiration. Corporal practice is represented as something that extracts different moods or humors from the inner part of the body (within the skin) to expel them through the pores of the epidermis, a barrier that separates the '*I (me) body*' from the external world. It does not refer to the body/corporal culture as something that amplifies sensations from the epidermis involucre, rather refers to restricting the body representation to instrumental relations.

In addition, the hygienist approach to this relation turns the body into a receptacle that, due to physical and moral weakness, ingests substances considered harmful to the health. Each person should warm up their own body, preferably through vigorous aerobic movements, which besides being useful for perspiration, are symbolically effective to incorporate esthetic values.

If the fundamental object was to perspire, a sauna would be the most objective solution; nevertheless, it is evident that exercising the body has also a social function. Certain corporal practices lead to assuming self-control. A sweaty body, achieved through burning exercises or weight-training, although far from being pleasant in everyone's eyes, shows the determination of chemically dependent individuals for *disincorporation* or elimination of the drugs from their organism, representing a disincorporation of their inner self.

In this specific case, this is a concept already assimilated by society and institutionally reinforced. However, this is reiterated by the interns without mediating the concept with their own sensations and reflections, since, not even in their spontaneous reports and statements, did they express their private opinions regarding how they felt about the benefits of eliminating drugs and/or their catabolites.

On the contrary, when most of them refer to the benefits of body exercises based on their sensations, the predominant representation concerns relaxation (psycho/somatic) due to the body's activity. These responses are concerned with the body perception that the female interns had when joining the recovery program. 'In the beginning it hurts, but later, exercises relax the body and we feel very well.' (Interviewee 09); 'Yes, when I do physical

exercises I sleep better, eat better, think better and my body thanks me'. (Interviewee 12); 'Yes, I feel lighter.' (Interviewee 14).

Concerning this aspect, it may be possible to recover the ability of games and exercises to stimulate moments of catharsis. In addition, body exercises as leisure activities are associated with the liberation of substances (endorphins) that act on the brain, providing pleasure and relaxation. According to Sher (2001), endogenous opioids are involved in the mediation of people's humor or mood and because exercises increase the liberation of such compounds, they contribute to establishing a good mood in human beings. Seeing the representation of the body as a depository of poisonous substances that should be expelled, the pleasure evoked by relaxation is seen as a less mechanical channel to work the imaginary of chemically dependent individuals regarding the significance of body exercises in their recovery and reinsertion into society.

It is relevant to emphasize that body exercises were used in the recovery institution due to a belief that they work as a complement to the prayers and therapeutic work developed, because the director of the recovery center believes that the individual's recovery should occur on three levels: physical, mental and spiritual. Therefore, they were designed from the perspective of physical activity and recreation. Despite the limitation of this health approach, considered idealistic, such a contribution would be useful, not only during the treatment, but for life, which means that when the women leave the recovery clinic, they would continue such involvement with significant body exercises in their free time.

Without aiming to reinforce a compensatory or rational attitude, we noticed that in the context and given the 'interns/patients' studied, corporal practices for leisure purposes provided sensations of pleasure to the individuals involved. These 'new' sources of satisfaction may contribute to and positively stimulate patient well-being, thus substituting the sensation of reward that occurs when consuming chemical substances. The body stops being a space of loss of substances and is transformed into a territory for the production of pleasant sensations. Its experience is not connected to a social function, but it would begin to present as more self-determined by the subject of the action.

Thus, the interns were questioned about their life perspectives. Reconstituting the family, studying, helping other chemically dependent individuals, achieving professional success and performing body exercises regularly were the most frequent replies. In relation to the future body activities they intended to do, the individuals interviewed mentioned, in decreasing order: gymnastics (exercises to fight localized fat and water aerobics), walking, fighting, swimming and participating in team sports. Adventure activities were only mentioned by the youngest individuals interviewed.

It is interesting to point out that the representation concerning perspiration loses strength in relation to the future. The individuals plan to continue performing corporal practice only in the initial phase of their insertion into society, because they are concerned with esthetic objectives (weight loss) and health as a whole, as stated: 'Doing exercises or gymnastics because,

besides maintaining the body, these activities benefit our mind' (Interviewee 14); 'Exercises that help physically and mentally' (Interviewee 8); 'Finding a balance between body, soul and spirit [...] I managed to lose 10 kilos with abdominal exercises and volleyball' (Interviewee 2).

Though they sound predictable, the interns showed their preference first, for localized exercises and second, for walking, independent of their condition as a chemical dependent. Thus, for women in their condition, it is necessary to reflect on the likelihood of making their dreams come true after undergoing the treatment. Although walking exercises may be done in courts, streets and public parks, representations point to a predominant view of consumption, when the women were asked about the ideal place for practicing the activity mentioned. These women imagine themselves in clubs or gyms. Even when estimating subscription fees and monthly payments, the representation of gyms as the ideal place is strong.

Two complementary, but antagonistic aspects need to be dismembered from the hegemony verified regarding gyms as social representations. Firstly, financial costs may represent low adherence rate and, consequently, low practice of regular physical activity in gyms, which may lead to feelings of frustration and reiteration of the cultural conformism and low creativity. It is worth highlighting that by analyzing and understanding the problem as an individual resolution, such understanding may reinforce the limited social mobilization concerning claims for pro sport and leisure public policies, aiming at bringing health to the community. In fact, the search for gyms and other 'private' sport centers countersigns the gradual substitution of public power for a private net, which is frequently not accessible to special groups or to low income groups in our society (Carvalho, 2001).

On the other hand, the desire to be part of groups that exercise themselves in private gyms may be interpreted as a dispute for the privatization of leisure equipments to do physical activities and sports. Half (50%) of the individuals interviewed, when manifesting their will for doing regular exercises in private gyms, strangely, did not have any experience in such a context. In fact, their imaginary seems to be driven mostly by expectations in relation to the sociability nets and in relation to the esthetic pleasure amidst the exhibition of healthy bodies. Moreover, considering the fear and personal feelings of insecurity after the recovery treatment, being in a private gym, instead of in public or in open places, may relate to searching for a safe place, together with greater surveillance and demands for attitudes considered healthier. For such individuals, the presence of friends and of a physical instructor works as a stimulant to do exercises, even at expense of their own autonomy.

An important aspect for this line of reflexive thought is that women's relation with body exercises (corporal activities) and with psychoactive substances is doubly unfavorable: women have less access to physical-sport-leisure opportunities (Pitanga & Lessa, 2005) and they have less chance of good evolution in their recovery compared to men (Kerr-Corrêa et al., 1999).

Finally, when these women refer to the search for balance, it is worth appealing to theoretical questioning of the idealized health model, because



the necessary conditions for balance are not always available. As Carvalho (2001, p. 14) points out '*a healthy person is the one who can or has conditions to choose in life*'. This would imply not only the assumed or presupposed physical-mental-spiritual balance (especially since it is necessary to unbalance to obtain balance) but possibilities relative to life conditions in their totality, as well as in access to leisure, work, healthcare and education. However, these policies do not seem to produce any effect in Brazilian society, whose compulsive speed has served as a model of unequal development. Thus, in their very genesis, the inclusion policies of chemically dependent individuals would result in their own exclusion.

## FINAL CONSIDERATIONS

Some limitations should be mentioned concerning the present investigation. A limiting factor that should be mentioned is the fact that the interviews were carried out within the limits of a chemical recovery institution; therefore, even though absolute anonymity of the participants was guaranteed, it may have interfered in their reports, since the patients might have felt vulnerable and, consequently, they may have omitted or camouflaged their real feelings and emotions. Although all female interns participated in the study, another factor that should be emphasized is the size of the sample, which is considered small and, therefore, a limiting factor; thus, in this case, generalizations are not permitted. However, when seeking a private context for performing investigations, this study aimed at destabilizing the discourses, specifically the generalizations; since it is valid that each group may have a different point of view concerning both the world and health.

Helman (2003, p. 94) argues that in '*culturally mixed societies, a single and inflexible model of health can no longer be acceptable. Therefore, medicine has to be an applied social science, as well as being an applied medical science*'. Thus, a critical view of the human being in society does not imply the denial of other fields of knowledge (Carvalho, 2001), because as dangerous as biological reductionism is, so is social reductionism, which makes 'contextualized' consideration of different knowledge regarding health and society relevant (Minayo, 1998).

In the present study, multiple collective representations, susceptible to meaning in the body or corporal culture were systematized within the group of chemically dependent women. First, we highlighted the women's considerations about using body exercises as a way of increasing perspiration; the expulsion of undesirable substances from the body. In this type of representation, coherence with discourses that are present in Medicine and in Physical Education occurs. However, some aspects cannot be dissociated, as is the case of moral values, whose asceticism assumes physical effort as 'a sacrifice' to acquire greater self-control; the biomedical view of 'balance and unbalance', for which the healthy functioning of the body depends on the harmonic balance of certain components prevalent

inside the body. Dependence would be a consequence of lack or excess of certain substances in the body, showing a need to expel the drug catabolites. Thus, in the transference, of the “illness” located in the moods/humors to the perspiration, the skin delimits the body territory, separating the '*I, that is inside the body*' from the external world, thus achieving changes in this medium so as to absorb sensations and experiences, while, on the other hand, eliminating substances that are undesirable to body homeostasis.

However, it is not an issue of forcing the body to expel toxins. An individual dimension is provided by the skin, which allows the individual to make sensitive contact with reality, thus giving the patient some elements to differentiate the external from the intrinsic aspects of the body. According to chemically dependent individuals, exercising the body in different ways, i.e., through recreation, adventure or by using expressive forms, enables the skin to receive, caress, breathe and be in contact with itself. Such functions of skin are seen as multiple forms that the skin-territory possesses to communicate with the external side or *exteriority*, acting on the external side and informing the internal side about sensations, such as tension, pain, pleasure, pressure, cold, heat or dizziness and so on.

The esthetic dimension and *other representations* of the body were present and need to be taken into account, since they reveal subjectivity governed by the desire of having a beautiful body, which may result in marketing appeal. The gestures and reports of the individuals interned in the recovery clinic also revealed traces of a search for pleasure, related to feelings of reward, relaxation and excitement achieved by practicing body activities. Such traces occasionally show subversive moments, in which the female interns want to transform behaviors considered forbidden in the recovery house, such as listening to non-religious music, into something licit.

Finally, to a lesser extent, body exercises, known as ‘corporal practices’ or as ‘education for leisure’, were referred to by the female interns as a positive process of holistic or general recovery, capable of positively influencing the control of some of their individual conditions, since the exercises act on the control of stress and anxiety, on sociability and on the duration and quality of sleep. For the chemical dependent, this lack of experiences are as important, or more important, because abstinence from the drug unleashes numerous symptoms, making it necessary to occupy the time by practicing different activities.

However, the mere use of physical activities as prophylaxis, without addressing the development of female interns disqualifies the pedagogic role of Physical Education professionals. In this sense, it is necessary to reflect on physical-sport activities as a double education, i.e., an attitude of the individual before life; first, because through the practice of activities, concepts, such as the knowledge on the effects of exercises in eliminating toxins, may be discovered and re-discussed through *praxis*. Secondly, from the perspective of autonomy, the very learning of the exercises and games may constitute, by itself, as scope for new experiences, which may be included in these women's routine as leisure, after being declared ‘recovered from dependency and liberated’, and consequently having permission to

leave the recovery center, where they were treated and emotionally supported.

In addition, public policies that organize such aspects throughout the period of insertion of the chemical dependent individual into society are necessary. Thus, it is urgent to identify how each community creates strategies to provide continuity to its corporal experiences, after the internship phase, considering the interaction of such individuals with others and assistance in other aspects of their lives, as well as setting limits for them and providing assistance, in a society considered 'narcotic in its essence'. The program should struggle to form people for autonomy, enabling them to choose within the existing possibilities and, simultaneously, struggle for widening their choices. In fact, this is the first condition when the political-pedagogic dimension of professional intervention is emphasized.

## REFERENCES

BEHRENSDORFF, I.; STEENTOFT, A. Medical and illegal drugs among Danish car drivers. **Accident Analysis & Prevention**, v. 35, p. 851-860, 2003.

CAILLOIS, R. **Los juegos y los hombres: la máscara y el vértigo**. México: Fundo de Cultura Económica, 1994.

CARVALHO, Y. M. de. Atividade física e saúde: onde está e quem é o "sujeito" da relação? **Revista Brasileira de Ciências do Esporte**. v. 22, n. 2, p. 09-22, 2001.

FOLLADOR, M. J. D.; YONAMINE, M.; MOREAU, R. L. M.; SILVA, O. A. detection of cocaine and cocaethylene in sweat by solid-phase microextraction and gas chromatography/mass spectrometry. **Journal of Chromatography B**, v. 811, p. 37-40, 2004.

GIMENO, J. M. R., FRA, E. P., MONTESINOS, J. L. G., MILLÁN, I. G. La prevención de drogodependencias mediante actividades cooperativas de riesgo y aventura. **Apunts**. n. 59, p. 46-54, 1998.

HUESTIS, M. A.; OYLER, J. M. CONE, E. J.; WSTADIK, A. T. SCHOENDORFER, D.; JOSEPH JR, R. E. Sweat testing for cocaine, codeine and metabolites by gas chromatography-mass spectrometry. **Journal of Chromatography B**, v. 733, p. 247-264, 1999.

KERR-CORRÊA, F.; LIMA, M. E. C.; DALBEN, I.; HEGEDUS, A. M. A importância da gravidade da dependência e do gênero para a evolução de dependentes de drogas. **Medicina** (Ribeirão Preto); 32 (Supl.1), p. 36-45, jun. 1999.

KIDWELL, D. A.; BLANCO, M. A.; SMITH, F. P. Cocaine detection in a university population by hair analysis and skin swab testing. **Forensic Science International**, v. 84, p. 75-86, 1997.

HELMAN, C. G. **Cultura, saúde e doença**. 4 ed. Porto Alegre: Artmed, 2003.

MENÉNDEZ, E. L. Antropologia médica e epidemiologia. Processo de convergência ou processo de medicalização? In: ALVES, P. C.; RABELO, M. C. (org.). **Antropologia da saúde: traçando identidade e explorando fronteiras**. Rio de Janeiro: Relemé Dumará, 1998. p. 71-94

MINAYO, M. C. de S. Construção da identidade da antropologia na área da saúde: o caso brasileiro. In: ALVES, P. C.; R., Miriam C. (org.). **Antropologia da saúde: traçando identidade e explorando fronteiras**. Rio de Janeiro: Relemé Dumará, 1998. p. 29-46

MINAYO, M. C. de S. **O desafio do conhecimento**. 6. ed. São Paulo: Hucitec, 1999.

OLIVEIRA, J. F. ; PAIVA, M. S.; VALENTE, C. L. M. . Representações sociais de profissionais de saúde sobre o consumo de drogas: um olhar numa perspectiva de gênero. **Ciência & Saúde Coletiva**, v. 11, p. 473-481, 2006.

PITANGA, F. J. G.; LESSA, I . Prevalência e Fatores Associados ao Sedentarismo no Lazer em Adultos. **Cadernos de Saúde Pública**, Rio de Janeiro, v. 21, n. 3, p. 870-877, 2005.

SCIVOLETTO, S., TSUJI, R. K., ABDO, C. H. N. *et al.* Relação entre consumo de drogas e comportamento sexual de estudantes de 2º grau de São Paulo. **Rev. Bras. Psiquiatr.**, vol.21, no.2, p. 87-94, abr. 1999.

SHER, L. Role of endogenous opioids in the effects on light on mood and behavior. **Medical Hypotheses**, v. 57, n.5, p. 609-611, 2001.

Translated by Philip Sidney Pacheco Badiz

Translation from **Interface - Comunicação, Saúde, Educação**, Botucatu, v.12, n.24, p. 61-71, Jan./Mar. 2008.

---

<sup>i</sup> Address: Zip code 87020-900. Maringá, Paraná, Brazil