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THEORETICAL MODELS OF ADDICTIVE BEHAVIOUR AND NATURAL RECOVERY. ANALYSIS OF RELATIONSHIPS AND CONSEQUENCES

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The prevention and treatment of drug-dependence are not independent of the theoretical model that explains its nature and determinants. The biomedical model makes up a large part of the theoretical substrate currently underlying policies on drug-dependence, and an ever-growing proportion of research presented in journals and at conferences focuses on biological factors. However, the phenomenon of self-change or natural recovery from addictions calls into question the predominant biomedical model, favouring a bio-psycho-social perspective more in line with psychological tradition and research. The present work reviews the most relevant empirical findings from research on self-change in problematic drug use, and analyzes the consequences of these findings for the current theoretical models in the field. Finally, some recommendations are made in relation to the implementation of drug-dependence programs that can help change both in those who recover naturally and those who require treatment.

Key words: *Drug Abuse, Natural Recovery, Psychopathological Models*

La prevención y el tratamiento de la drogodependencia no son independientes del modelo teórico que explica la naturaleza y los determinantes de la adicción a las drogas. El modelo bio-médico conforma buena parte del sustrato teórico que subyace hoy a las políticas de atención a la drogodependencia, y buena parte de la investigación que se puede ver en publicaciones y congresos presta cada vez mayor atención a los determinantes biológicos. Sin embargo, el fenómeno del auto-cambio o la recuperación natural en las adicciones ponen en cuestión el modelo bio-médico predominante y favorecen un enfoque bio-psico-social más acorde con la tradición y la investigación psicológicas. En el presente trabajo se exponen los datos empíricos más relevantes que se han obtenido de la investigación sobre el auto-cambio en el consumo problemático de drogas, y se analizan las consecuencias de estos hallazgos sobre los modelos teóricos en liza. Por último, se formulan algunas recomendaciones en la implantación de los servicios de atención a drogodependientes que favorezcan el cambio tanto en sujetos que se recuperan naturalmente como en aquellos que deban acudir a tratamiento.

Palabras clave: *Abuso de drogas, Recuperación Natural, Modelos Psicopatológicos.*

TWO COMPETING MODELS

Drug dependence, or the addictive consumption of drugs, legal or otherwise, is a somewhat controversial concept. The psychopathological categorization systems currently in use (CIE and DSM) recognize drug addiction as a disorder or illness. The DSM considers two concepts, abuse and dependence, which describe different degrees of adherence to the pathological habit of using one or various psychotropic substances with addictive potential.

For the purposes of this article we shall focus on the notion of dependence, since the concept of abuse lacks relevance, being a residual category that refers to a maladaptive or dangerous pattern of use with somewhat ill-defined limits. Abuse might be considered as a possible stage on the way to dependence, which in contrast does contain the essential elements determining the pathological condition of drug addiction, such as loss of self-control, the degradation of social behaviour, tolerance and withdrawal symptoms.

The traditional biomedical medical, which underlies the two classification systems mentioned above, is based on the belief that dependence on one or more drugs is a chronic illness of a recidivistic nature (Casas, Duro & Pinet, 2006). The consequences of this perspective are fairly clear:

1. There is no recovery in the absence of treatment. The chronic nature of the disorder and the associated loss of control mean that drug-dependent patients fail in their multiple attempts to give up use of the substance by themselves. Treatment is therefore the only possible response.
2. The concept of cure is not applicable, since the supposed biological vulnerability is always present and relapses may occur. Such relapses should be seen

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not as a failure of the treatment, but rather as the result of the chronic evolution of the disorder in its relationship, not always effective, with ongoing supervision and treatment. In this sense, relapses are proof of the underlying chronicity of the disorder.

3. There is no possibility of maintaining permanent self-controlled contact with the drug or drugs. The aim of treatment should always be abstinence, given that the subject's contact with the drug will lead to immediate relapse. From this perspective, "controlled consumption" in people who have been dependent on a substance is considered impossible, based on the argument that either the diagnosis is insufficient or erroneous or the accuracy of the reports is in doubt (Vaillant, 2005).

On the other hand, the bio-psycho-social model understands drug dependence as a behaviour or habit regulated by biological, psychological and social factors. According to this model, addictive behaviour and drug dependence are not chronic conditions of the individual, but rather the result of the interaction of psychological, biological and social determinants at a given time. The consequences of this perspective are also quite clear:

1. There can be recovery without treatment. Moving from high-risk to low-risk consumption is a reasonably common phenomenon. In a similar way to the case of natural recovery in neuroses (Eysenck, 1952), addictions can develop favourably given the conditions that determine, in each case, the change in behaviour. Not all subjects can modify their addictive behaviour without external help, either due to the extent of the habit or to the serious deterioration of their personal and social conditions. But natural recovery appears to be the route followed by the majority of people who have "problems" with drugs (Cunningham, 1999; Dawson et al., 2005; Hasin & Grant, 1995; Klingemann et al., 2001; Sobell, Cunningham, & Sobell, 1996).
2. Relapse during treatment results from the interaction of the different factors that determine the presence of the habit. It should be seen not as evidence of an underlying biological vulnerability, but as evidence of the failure of the subject's mechanisms for coping with the contextual factors conditioning his or her behaviour.
3. The objective of treatment can be "controlled consumption". As in the case of relapse, incapacity for self-control is not a chronic characteristic of a person, but should rather be seen as the result of contextual determinants and the person's ability to cope.

Choice of the bio-medical model is having significant effects on forms of prevention and treatment of drug dependence. Some of the most relevant are as follows:

- ✔ Anti-drugs policies have been, and are becoming more and more, guided by a strict healthcare or medical perspective, heavily influenced by the bio-medical model.
- ✔ Despite the high profile of prevention in the rhetoric of public anti-drugs policy, its development and implementation reflect a clear lack of conviction. The prevention of drug dependence has a predominant psycho-social dimension with substantial repercussions in the legal, educational and community fields. In contrast to the prevention of infectious diseases, the biomedical components are not relevant. This goes a long way to explaining the lack of commitment and resource allocation by the healthcare sector to preventive initiatives.
- ✔ Treatment is becoming more and more medicalized, with new pharmacological prescriptions and approaches continually emerging in the field of treatment, monopolizing the attention of conferences and symposia and with growing presence in specialist journals. Despite the existence of important psycho-social treatment options for dependents, the "chronic illness" model still provides the rationale for many healthcare resources (e.g., through the adoption of abstinence as the sole objective). Finally, it is significant that the authorities are insisting on more involvement by primary care agents in the prevention and treatment of drug dependence. To those with any knowledge of primary attention it is clear that such types of appeal to an eminently medical – and already overloaded – service could only be made from a totally biomedical perspective.

What are the reasons behind the maintenance of a bio-medical model of addictions? Is there any scientific justification for the use of this model, as opposed to the bio-psycho-social one, in the explanation and analysis of the phenomena that can be observed in addictive behaviour?

It is outside the brief of this work to enter into a detailed analysis of evidence in favour of one model or the other. It may well be that the scientific, social and economic factors underpinning the biomedical model in its explanation of behavioural habits, such as addictions, in

Western societies, are not so different from those that have been adduced for interpreting the current biomedical enthusiasm in the analysis of other psychopathological disorders (Blech, 2005).

The focus of our interest here will be the study of the implications of the phenomenon of natural recovery from addiction for the understanding, prevention and treatment of drug dependence. We shall begin with a brief consideration of the nature of natural recovery and the research findings in the area. We shall then move on to an analysis of its coherence with the theoretical models currently proposed. Finally, we shall draw some conclusions in relation to the prevention and treatment of drug dependence.

NATURAL RECOVERY OR SELF-CHANGE IN ADDICTIVE BEHAVIOURS

When a drug-dependent person recovers without the intervention of formal treatment, it is said that the person in question has recovered "naturally", that there has been "spontaneous recovery", or that they have improved through a process "guided by themselves", or by means of "self-change".

Such definitions involve three basic elements (drug dependence, recovery and formal treatment) that require some clarification.

Studies on natural recovery in the field of addiction have concerned themselves with being clear about the initial state or starting point of the patient who recovers. This concern derives from the need to know whether the process of natural recovery occurs in truly drug-dependent people or only in those with drug "problems". Relying on a somewhat circular definition of dependence as the central concept of addiction, experts have gone as far as saying that if subjects change their substance habit by themselves, they are not truly addicted to (or dependent upon) it (Chiauzzi & S., 1993). In spite of the fact that some studies take into account only clinical consumption criteria (quantity, frequency, types of drugs, etc.) for assessing the seriousness of the dependence, others, in setting cut-off points, use established nosological criteria, such as those from the DSM, which permit comparison of the "route" to recovery taken by treated subjects and that of those who have not sought treatment and recovered "naturally". In this way it is attempted to guarantee that the comparison is made once (in either case) a certain threshold of seriousness of dependence has been surpassed. The use of this assessment strategy, based on nosological systems clearly inspired by medical perspectives, is not free from criticism, much of it coming indeed, somewhat paradoxically, from the staunchest advocates of the medical model (Vaillant, 2005). In any case, the assessment of drug dependence is made with both continuous criteria (number and seriousness of the different symptoms or behaviours of dependence) and discontinuous/categorical criteria (the criterion set by the nosological system employed is reached or not).

The way recovery is conceptualized is also crucial. For some, normally on the basis of medical or moral models, recovery can only be equated with abstinence. However, it would seem evident that the opposite of abusive or dependent consumption – whose essential characteristic is not so much the quantity consumed as the consumer's lack of control – is controlled consumption. It is important to take into account that the idea of "recovery", in the case of studies of natural recovery and as far as alcohol is concerned, normally signifies not "abstinence" but rather "non-dangerous consumption". This "non-dangerous" use is actually defined according to the norms of the WHO (World Health Organization, 1998). The consequences of adopting one criterion or another are important for clarifying the significance of natural recovery. It is estimated that the non-inclusion of moderate drinkers could exclude 40% of problem drinkers who recover without therapeutic help (Klingemann et al., 2001; Sobell, Ellingstad, & Sobell, 2000). In the cases of tobacco and illegal drugs there is no "safe consumption", so that the recovery criterion is abstinence (Carballo et al., 2007). This criterion may be called into question in relation to the seriousness of the consequences of controlled and long-term consumption of substances such as cannabis, or even cocaine and heroin, though it is fully in accordance with current official health guidelines.

As regards the notion of "formal treatment", it is not always easy to be clear about what it means. This is also a crucial issue, because there is no radical difference between the changes observed during treatment and those that emerge as a consequence of the self-change process. If in what happens to the subject there is no substantial difference, then it becomes highly important to clarify what is understood by therapeutic help and how it differs from the external help received by addicts who opt for natural recovery. It is difficult to distinguish what is treatment from what is not. For the purpose of studies on natural recovery, Klingemann et al. (2001) have defined treatment as different types of resources or thera-

peutic services aimed at achieving change in addictive behaviours, including: self-help groups, psychological or psychiatric treatment, resources related to social services, psychiatric hospitals, doctors' or nurses' advice, hospital services and detox centres. As it can be seen, this is an extremely broad definition that excludes all help with recovery defined as structured therapeutic activity, from brief advice and institutional psychosocial support to more sophisticated and prolonged treatments, be they of a psychological or a psychiatric nature. It should be borne in mind, nevertheless, that some recent studies have failed to consider as treatment attendance at three sessions or less of self-help groups (Ellingstad, Sobell, Sobell, Eickleberry, & Golden, 2006; Sobell, Sobell, & Toneatto, 1992; Sobell, Sobell, Toneatto, & Leo, 1993; Toneatto, Sobell, Sobell, & Rubel, 1999), especially if subjects feel their experience at these groups was irrelevant to the process of recovery.

Taking into account all that has been said up to now about drug dependence, recovery and treatment provides us with a first impression on natural recovery in addictions. Studies in this area have not focused solely on "problem" and abusive consumption, which would restrict their scope, but have also looked into the possibilities of natural recovery in dependent subjects, defining dependence according to the criteria of the nosological systems currently in force. Moreover, the concept of recovery has not been limited to abstinent subjects, in the case of alcohol, but has also included, as valid recovery, that of those who return to controlled use with low health risk. From the perspective of natural recovery there is no reason to maintain abstinence as a criterion, thus distancing it from the circular reasoning that dependence always requires abstinence, and from a moralistic stance that ignores the clinical criteria for alcohol set by international organizations such as the WHO. Finally, and with the aim of giving maximum consistency to the concept of self-change or "natural change", the definition of treatment has been greatly extended to cover all regulated forms of intervention in the field of drug dependence, though some limits have been set in the case of self-help, given the frequency with which these types of therapeutic strategies are explored but soon abandoned.

NATURAL RECOVERY IN EMPIRICAL RESEARCH

The phenomenon of self-change or natural recovery occurs successfully in all types of addiction to psychoactive substances. One of the most widely cited early studies explored the improvement without any kind of therapeutic intervention that took place among some of the Vietnam veterans addicted to heroin on returning to their homes in the USA (Robins, 1993). Most subsequent work has dealt with alcohol and tobacco, though more and more research is including studies with other substances, such as cannabis, cocaine or heroin (Carballo et al., 2007).

With research data from extensive surveys among the general population, very high rates of self-change have been found (Dawson et al., 2005). Thus, in the case of alcohol the figures have ranged from 67% to 83% of "self-changers" for "dependents" or "abusers", respectively (Hasin & Grant, 1995), or around 77% if the inclusion criterion was that they were habitual drinkers with an intake of 7 Standard Drink Units (SDU) per day (which is no small amount (Sobell, Cunningham, & Sobell, 1996). It is not surprising that such results lead to the conclusion that "...a large majority of people with alcohol problems can overcome them, and indeed, do overcome them, without formal treatment or self-help groups" (Klingemann et al., 2001).

As already mentioned, in the case of illegal drugs the data obtained are scarcer, though they would appear to be in the same direction. In an extensive study carried out in Canada it was found that 84% of cannabis users, 85.9% of LSD users, 84% of crack or cocaine users, 79.6% of speed users and 65.5% of heroin users could be self-changers (Cunningham, 1999).

The self-change process is more likely to occur when the addiction is less serious (Bischof, Rumpf, Hapke, Meyer, & John, 2002; Weisner, Matzger, & Kaskutas, 2003), though it can occur in any type of dependent person, without being subject to the person's history of abuse or personal characteristics. Seriousness of the addiction refers to a construct whose variables include the extent of dependence prior to onset of the change process and the number, duration and significance of the consequences of the addictive behaviour. Studies comparing the characteristics of subjects who seek treatment with those of natural recoverers have found that, on average, those who recover naturally tend to present a less serious addiction profile and have more personal resources for coping with the process of change (DiClemente, 2006). This does not mean, however, that self-change process cannot occur in subjects with serious addictions, or with few resources.

In research carried out in Spain by the authors of the present article, and which has yet to be published, it was

found that self-changers presented fewer symptoms of dependence at the beginning of the change process than those who received treatment. Moreover, those who sought treatment had more associated psychopathological disorders (comorbidity) than those who did not seek treatment, and more commonly reported polyconsumption. The presence of comorbid disorders and the use of multiple substances could be interpreted as increasing related problems and at the same time reducing one's personal resources for coping with them (DiClemente, 2006).

Self-change appears to involve cognitive processes similar to those that can be found in subjects who recover through treatment. According to the transtheoretical model (Prochaska & DiClemente, 1984), in cases of recovery there is always the will to change, commitment, planning and effective decision-making in the person involved. It is a matter of debate whether this process of change is confined to a pre-fixed set of stages, as described in the transtheoretical model, which would serve to predict "the degree to which an individual is motivated to change a problem behaviour" (Klingemann et al., 2001); what is less in doubt, given the volume of evidence, is that disposition to change is the result of the interaction of multiple behavioural, cognitive and environmental factors.

Certain factors are known to influence the decision for self-change and its success. Among these are contextual and developmental determinants, problems associated with drug use and the available resources. The environmental determinants most commonly emerging in the literature are important life changes (moving house, changing job, change of marital status, etc.) and those related to social pressure, be it in the context of family, friends, work, or any other (Bischof, Rumpf, U., Meyer, & John, 2001; Rumpf, Bischof, Hapke, Meyer, & John, 2002). From the developmental point of view, researchers have hypothesized that maturation can explain the ease with which certain addicts give up their habit on reaching a certain age; some studies have shown the effect of the link between age and certain consumption habits, and how, after a critical period in life, healthier behaviours are resumed (Drew, 1968; Winick, 1962, 1964). In relation to these latter points, the study of predictor variables linked to natural recovery or self-change may be of great utility for revealing the future importance of certain pathological drug habits associated with adolescence (Vik, Cellucci, & Ivers, 2003). In this regard, it is clear that not all those aged 12 to 18 with abusive patterns of alcohol, tobacco or other drug use will degenerate into adults with serious addictions.

Other factors influencing the decision are those deriving directly from the drug use itself. Health is frequently cited as a reason for giving up alcohol. Use of drugs may go hand in hand with a direct or indirect assault on the person's health. It is not surprising that 52.9% of studies that report reasons for change indicate health as one of them (Carballo et al., 2007). Other important factors linked directly to consumption are financial difficulties and legal complications. Abusive consumption, be it of legal or illegal substances (most especially in the latter case) may be associated with deterioration in the person's job performance, the constant search for sources of money to feed the habit, and lawbreaking. With this in mind, it makes sense that economic and legal factors are cited as important determinants of both the initiation and maintenance of change (Carballo et al., 2007).

The resources available may constitute a determining factor in choosing the self-change route. It is likely that subjects with higher level of education and better financial and social resources will be able to cope sooner and more effectively with the process of change, thus avoiding the stigmatization and conditioning factors of treatment programmes. Such aspects emerge in the majority of studies in which participants are asked about their reasons for not seeking formal treatment (Carballo et al., 2007; Sobell et al., 2000). Even so, it should be taken into account that such resources cannot be abstracted from the seriousness of the addiction, since it is precisely the type of subject with most resources that presents the least serious addictions.

Finally, it is highly probable that social acceptance of the self-change phenomenon also has a substantial influence on the generation of self-change strategies among subjects with problem consumption. The choice between treatment and self-change is modulated by factors such as the treatment programmes available and their accessibility, the experiences of others that have given up harmful consumption habits, confidence in the utility of services on offer, the availability of self-help groups, community attitudes and beliefs vis-à-vis drug addiction and recovery, past experience with treatment, and so on (Klingemann et al., 2001). It is well known that the social context is a crucial factor affecting the prevention and treatment of drug dependence, shaping individual behaviour in relation to them. Examples of the way in

which the social context has an effect might be the "religious or spiritual" influence referred to by some self-changers, or the role of ex-addicts in treatment programmes. Currently, a research project is being carried out in several European cities aimed at surveying the different social attitudes and beliefs on self-change in drug dependence. The results of these surveys may help to reveal the extent of the relationship between the social perception of self-change and how widespread it is among people with problem consumption.

The finding that the course of the natural recovery process does not lead necessarily to abstinence is a matter of great importance in these studies, as we stressed earlier. In a review of research carried out up to the year 2000 it was found that more than three-quarters of those recovering from problem alcohol use choose moderate or controlled consumption (Sobell et al., 2000). This same review also revealed that 46.2% of studies that analyzed recovery from the use of other drugs also took into account limited or controlled consumption.

It has been argued that these findings may be biased, since it cannot be guaranteed that the recoveries in question are stable, or that the information people provide is credible or accurate. This is not the place to deal in any depth with these issues, which have also been subjected to research. Suffice to say that research has taken into account the concept of "stability", setting restrictive time criteria for the acceptance of subjects who have recovered "naturally". It is recommended to accept no "natural recovery" that has lasted less than 5 years, given that the first 5 years after the change – be it achieved through treatment or through self-change – are considered to constitute the period of maximum instability (Sobell et al., 2000). Some studies with lengthy follow-up have shown the stability of natural recovery in alcohol abuse self-changers, both abstinent and with moderate consumption, after several years (Rumpf, Bischof, Hapke, Meyer, & John, 2006; Sobell, Sobell, & Kozlowski, 1995). As far as the accuracy of self-reports is concerned, no reasons to distrust this source of information have emerged, though it is recommended to use additional informants to improve accuracy (Sobell et al., 2000).

NATURAL RECOVERY AND MODELS OF ADDICTIVE BEHAVIOUR

The phenomenon of natural recovery, as described up to now, has some clear implications for the debate on the models currently applied in the field of addictions.

The chronic illness model, characteristically biomedical, postulates a disorder that is permanent and, in contact with the substance, progressive, and which cannot be arrested without treatment. According to this conception, the characteristics of individuals that make them dependent are immovably rooted in their physiology, perhaps because they are in their genes. Such perspectives are totally incompatible with the phenomenon of natural recovery or self-change that we have described here.

The generality of the self-change processes, in terms of age, culture, types of drug, seriousness of addiction, and so on, suggests a reasonably common process in relation to drug use, making it impossible to maintain the idea of drug dependence being explained solely on a biological basis. The varied characteristics of the self-change phenomenon clearly indicate the appropriateness of a complex aetiology involving the interaction of diverse factors (psychological, social and biological), as opposed to a simple one based on biology. Moreover, the nature of the factors that trigger and maintain processes of self-change, and the similarity of these factors to those that also operate in the case of treatment (Bischof, Rumpf, Hapke, Meyer, & John, 2000; Bischof et al., 2002; Blomqvist, 1999; Tucker, Vuchinich, & Rippens, 2002), support a bio-psycho-social model, more in accordance with a plurality of addictive routes.

The treatment of drug-dependent people should be seen as assistance for the process of self-change generated by subjects themselves. If the discrepancy between the stimuli to consume and the subject's resources for coping with them is very large, then motivated subjects will seek treatment. These two components, the stimuli associated with consumption and the subject's coping resources, maintain a dynamic relationship that allows for many potential entrances and exits in the addiction, which are a common feature in those using drugs. This form of understanding treatment is totally incompatible with a biology-based reductionism, since one of the equilibrium solutions available to the former drug-dependent person is that of "controlled consumption". The demonstrated fact that dependence and "problem" drug use are not solved solely by total abstinence openly challenges the notion of chronic predisposition or "illness" concept underlying the biomedical model. It seems clear that the control of addictive behaviour can take two different forms (abstinence and controlled consumption), whose viability will depend on multiple psychological, biological and social factors.

BY WAY OF CONCLUSION: SOME PRACTICAL CONSEQUENCES

The empirical reality and the nature of the self-change phenomenon make a reductionist biomedical approach untenable. It seems clear that the adoption of the idea that drug dependence is a chronic illness, with a fundamentally biological substrate, flies in the face of the observable reality and severely distorts strategies of prevention and treatment, adversely affecting their efficacy.

The fact that the extent of the self-change phenomenon in drug dependence has been revealed by widespread research should lead to certain changes in preventive and therapeutic perspectives.

Prevention should take into account the natural recovery phenomenon. This self-change concept should be promoted to encourage individuals who are abusing drugs, and who wish to change their consumption habits without seeking formal treatment, to trust in their possibilities and set the process of change in motion. To this end, public information campaigns and education should indicate that it is possible to recover from problem use of drugs and alcohol by oneself, and that this is the route most commonly taken (Sobell & Sobell, 2005). A strategy of this type might have positive influence even on those incapable of recovering by themselves, since it appears to make them more favourably disposed towards seeking help (Sobell et al., 2002).

If self-change is seen as the essential basis of the process of moving from dependence to responsible and controlled consumption or to abstinence, regardless of whether treatment is involved, then the focus of interest of treatment programmes and therapeutic interventions should shift towards the determinants, characteristics and individual processes of change. The psycho-social approach in the treatment of addictions should prevail rather than, as now, the biomedical model.

An immediate consequence of combining the adoption of this perspective with the promotion and encouragement of self-change in addictions is the need to support the creation and funding of so-called "moderation services" (whose function is to reduce risk) aimed at those large sections of the population that wish to reduce their alcohol intake but are reluctant to turn to the formal treatment programmes available. This strategy would have the obvious advantage of attracting such people toward interest in seeking some kind of solution.

Obviously, in order to guarantee the success of such a strategy, there would be a pressing need to train professionals in assessment and treatment techniques and in the formulation of objectives more in line with a bio-psycho-social model of addiction, which differ from those commonly formulated in drug-dependence services within the traditional "chronic illness" healthcare framework.

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