Commentary

THE IMPORTANCE OF REACHING A CONSENSUAL DEFINITION OF DEPENDENCE AND OF COMMUNICATING THIS KNOWLEDGE TO THE PUBLIC

In this issue, Hendricks et al. [1] found that DSM-IV criteria of tobacco dependence did not predict smoking abstinence after 12 weeks, were weakly associated with smoking behavior and had a low internal consistency. The authors conclude that DSM-IV criteria may have little clinical or research utility. However, in general, if data fail to show an association predicted by theory, rejecting the theory is not the only possible conclusion. Alternative explanations should be explored. For instance, the problem may stem from the measurement tools, the analysis or the methods.

Is the theory wrong?

Other indicators of dependence (cigarettes per day, time to the first cigarette of the day) have reliably predicted abstinence in many studies, including this one. Thus dependence level is a reliable predictor of abstinence; the problem is that the DSM-IV definition of dependence may not be valid or comprehensive. The DSM-IV was developed mainly for administrative and clinical purposes. It is used for reimbursement and therefore needs dichotomous diagnoses. However, dependence, like most other psychiatric conditions, represents a continuum rather than a neatly defined dichotomy. Therefore, for scientific purposes, continuous measures are more relevant than dichotomies. Thus, the negative results of this study may reflect the use of dichotomous measures. Elaboration of the DSM-V is currently under way and, hopefully, the new definition will include a continuous measure, in addition to the dichotomous criteria that will probably be maintained because of billing purposes. Furthermore, the DSM is the product of several contingencies, historical (the DSM was first published in 1952, the DSM-IV was published in 1994 and is based on research conducted mainly in the 1970s and 80s, thus recent statistical and theoretical developments are not taken into account), geographical (USA), methodological (it is a consensus of experts, thus the product of a negotiation) and sociological (it was established by experts of the American Psychiatric Association, mostly upper middle class white middle aged men who held positions in academic institutions). There is little doubt that a different process would yield different results.

Were the methods used in this study appropriate?

In addition to the limitations already acknowledged by the authors, it should be mentioned that DIS-IV evaluates the symptoms retrospectively, and it is well known that retrospective reports may lack validity. The current level of dependence may be a better predictor than self-reported past status. As for the prediction analysis, 12 weeks may represent too long an interval, as relapse may occur for reasons largely independent from dependence level, for instance because of the presence of other smokers. A shorter interval may better reflect the impact of dependence, with less influence from environmental factors. An analysis of the reasons for relapse after an initially successful quit attempt, and a survival analysis may have been useful. Item response theory is also an adequate approach that could have been used.

Defining dependence and communicating this knowledge to the public

The DSM-IV definition is widely accepted, but this and other studies suggest that it may not be optimal [2]. Thus, other conceptualizations of dependence and other approaches to its measurement have been explored [3,4,5]. The problem is that there is no consensus in the literature about whether dependence is uni- or multidimensional, nor about how best to measure it. Two new scales (NDSS [Nicotine Dependence Syndrome Scale] and WISDM [Wisconsin Inventory of Smoking Dependence Motives]) are based on multidimensional models of dependence, and they include elements that differ from the DSM-IV definition [4,5]. However, both scales are empirically derived rather than based on theory. As a consequence, it is not clear whether all their components actually reflect dependence. Some of their components may in fact reflect behavioral aspects that are only indirectly related to dependence. Because the concept of dependence is socially constructed, its definition will inevitably be influenced by who produces it, by the current state of research, and by the status of addictive substances in a given society at a given point in time. The way dependence is defined and understood by health professionals, legislators, policy makers, law enforcement agents and by the public has immense consequences on how addicted individuals are considered, treated, and dealt with. Dependence has been described as a chronic, relapsing disease of the brain [6], and as a dysfunctioning of the motivational system [7]. If this approach was widely accepted and understood, then the balance may be tilted towards a medical response rather than a purely...
repressive response to this problem. Given the social, political and economic burden of addictions, it is of utmost importance that experts find a consensus about what exactly is dependence and that they communicate this knowledge to the public.

DECLARATION OF INTEREST

The Institute of Social and Preventive Medicine of the University of Geneva received funding from Novartis and Pfizer (both producers of nicotine replacement products) to develop, under the supervision of Jean-François Etter, internet-based smoking cessation programs for smokers. Jean-François Etter has acted as an adviser to Pfizer, manufacturer of smoking cessation medications.

Key words Addiction, dependence, DSM-IV, nicotine, psychometric methods, smoking.

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