

Review Article

Psychological characteristics associated with tobacco smoking behavior*

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Abstract

This article is a literature review of the psychological aspects of smoking behavior, highlighting personality characteristics of the smoker as an obstacle to smoking cessation. It describes the relationship between smoking behavior and personality, and between smoking and the principal psychiatric disorders. Studies reveal that smokers tend to be more extroverted, anxious, tense, and impulsive, and show more traits of neuroticism and psychoticism than do ex-smokers or nonsmokers. The literature also reveals a strong association between smoking and mental disorders, such as schizophrenia and depression. Understanding the psychological factors associated with tobacco smoking and dependence can further the development and improvement of therapeutic strategies to be used in smoking-cessation programs, as well as of programs aimed at prevention and education.

Keywords: Personality; Mental disorders; Smoking.

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Introduction

Approximately 70% of smokers want to stop smoking. However, few succeed, and, of those that do, most require five to seven attempts before definitively dropping the habit.⁽¹⁾ Nicotine dependence is a complex disorder and is difficult to overcome. Motivation to kick the habit is one of the most important factors in smoking cessation and is interrelated to a variety of hereditary, physiological, environmental, and psychological variables.

In addition to motivation, the smoker will have to confront a few factors that make this process difficult. Among such factors, the intensity of the withdrawal syndrome is one of the principal contributing causes for maintaining the habit. The symptoms vary in intensity among people, and generally start within hours after the interruption, increasing in the first 12 h and peaking on the third day. Discomfort increases at early night, and the most significant complaints refer to increased compulsivity, irritability, anxiety, difficulty in concentrating, agitation, and a sensation of sleepiness or dullness, as well as hostility reactions.⁽¹⁾ These alterations can be observed for 30 days or more; however, compulsive symptoms can persist for many months or years.

Another great obstacle is the degree of nicotine dependence. When the smoker reaches six or more points in the Fagerström test⁽²⁾ (high or very high degree of dependence), the individual is considered a heavy smoker. Heavy smokers generally smoke the first cigarette up to 30 min after waking up. In addition, they perceive the difficulty of quitting and have little self-confidence. Among the various forms of approaching these patients, we can highlight the need to strengthen motivation, without which these patients will not be able to quit smoking. Many of them report that they want to stop smoking; however, in fact, this verbally expressed desire does not faithfully translate their real feelings regarding smoking, since they are not duly motivated to do so.⁽³⁾

Weight gain is also a factor that makes it difficult to kick the habit. Clinical and epidemiological studies report that smokers weigh less than do nonsmokers and gain weight when they stop smoking. Most studies show that the use of nicotine results in a period of weight loss (or reduction of weight gain). In addition, cessation of the use of the drug results in an acute period of weight gain, followed by a

return to levels similar to those observed in controls. Excessive weight gain generally follows alterations in behavior and personality patterns, frequently manifested as depression, abstention, self-punishment, irritability, and aggression. Weight gain, together with increased stress, intensifies the impulse to eat, perpetuating the vicious cycle. At the moment, the three most widely accepted theories to explain the relationship between smoking and body weight are as follows: a) increased metabolic rate, with greater energy expenditure by smokers; b) differences in quality and quantity of food intake by smokers; c) appetite loss, via nicotine.^(4,5)

In this review article, emphasizing the personality profile of the smoker as an important obstacle to cessation, we describe the relationship between smoking and personality and, subsequently, the relationship between smoking and the principal psychiatric disorders.

Smoking and personality

Most studies on the relationship between smoking and personality characteristics, in recent decades, were carried out according to the theoretical model proposed in 1967.⁽⁶⁾ According to this approach, there are three predominant dimensions of character or personality supposedly related to smoking: extroversion, neuroticism, and psychoticism.

The extroversion dimension comprises factors such as sociability, assertiveness, positive emotions, vivacity, and activity level.⁽⁷⁾ It has been hypothesized that there is a relationship between extroversion and smoking.⁽⁶⁾ In line with this interpretation, extroverts and introverts differ as to the level of necessary stimulation for their well-being. At equivalent stimulation levels, extroverts will be characterized by low cortical excitation, and introverts by high cortical excitation. At a medium level of stimulation, at which most daily activities occur, extroverts will more likely feel little stimulated, whereas introverts will feel highly stimulated. Since they operate below their ideal level of cortical excitation, extroverts might try to change their external environment through increased activity, or might try to change their internal environment by ingesting substances, such as nicotine and other drugs. However, introverts will try to reduce the stimulation input. One of the hypotheses is that this difference in cortical excitation levels results from genetic inheritance.⁽⁷⁾

Similarly, traces of neuroticism can make the smoker sensitive to the properties of nicotine. People who get high scores on personality tests that evaluate this dimension possibly receive greater reinforcement in stressful situations, due to the stress-reducing effects provided by the cigarette.⁽⁷⁾ The neuroticism dimension comprises subdimensions of personality, such as anxiety, depression, psychological vulnerability, hostility, and anger, and is related to depression and anxiety disorders. The neurotic individual presents high frequency and intensity of negative affection, resulting from an inefficient self-regulating mechanism for affection and modulation of excitation and, therefore, uses the cigarette to facilitate internal homeostasis. The hypothesis is that smoking enables the reduction of negative affection in these individuals.⁽⁷⁾

The psychoticism dimension comprises facets of character such as impulsivity, cynicism, coldness, antisocial tendencies, reduced agreeableness/conformity, reduced constraint/inhibition, search for stimulating or exciting sensations, and low conscientiousness.⁽⁸⁾

In previous decades, most studies demonstrated that smokers tend to get higher scores in extroversion, compared with nonsmokers.^(9,10) However, in some studies, this association was not confirmed.⁽¹¹⁻¹⁴⁾

The association between smoking and extroversion has decreased in recent decades, possibly because smoking has become a socially undesirable habit in many countries. Smokers might have been punished in situations of interaction, reverting the tendency toward association with this personality trait.⁽⁷⁾

Data in the literature are also inconsistent regarding the neuroticism factor. Numerous studies published in previous decades showed a relationship between smoking and neuroticism.^(9,15) However, this association was not detected in some studies.^(10,16) Nevertheless, in contrast with the extroversion factor, the relationship between neuroticism and smoking is more consistent and seems to have grown considerably during recent decades. Individuals who are more 'neurotic' seem less inclined to quit smoking, even when confronted with the recent social pressure; and can feel greater reinforcing effects of nicotine, when compared with individuals who are more emotionally stable.⁽⁷⁾

The controversy among the results on the relationship between smoking and factors such as extroversion and neuroticism remains, probably due to the fact that smokers are not a homogeneous group.^(12,14,17) People smoke for different reasons and, therefore, can be influenced, simultaneously, by individual variables and situational factors. Two classes of situations seem to trigger the desire to smoke. One of them consists of boring situations that result in the need to increase cortical stimulation. The second seems to result from stress. For some individuals (such as those with high extroversion level), smoking would be more attractive in dull situations, in order to create cortical stimulation. However, highly neurotic people would receive greater reinforcement through smoking in stressful situations, due to stress-reducing effects provided by smoking.⁽⁷⁾

Therefore, the nature of the association between smoking and the two dimensions (extroversion and neuroticism) remains controversial. Nevertheless, the association between tobacco consumption and psychoticism is more consistent and has been confirmed through numerous studies.^(12,18,19)

There are also numerous studies in the literature that have focused on other approaches. There is strong evidence of an association between tobacco consumption and a personality factor characterized as the need to experience stimulating sensations (sensation seeking). The sensation seeking dimension can be defined as the 'search for new, varied, complex and intense sensations and experiences, together with the predisposition to take physical, social, legal, and financial risks in order to have such experiences.'⁽²⁰⁾

The sensation seeking factor theory was formulated in 1969.⁽²¹⁾ This dimension comprises facets such as a lack of inhibition, the search for emotions (enthusiasm), the need for adventure, the need for new experiences, and susceptibility to boredom.⁽²²⁾ The existence of the sensation seeking dimension is also substantiated by biological findings. Individuals with high scores in this factor present low levels of cortical stimulation. It is supposed that individuals with pronounced traits of this characteristic are chronically understimulated and therefore tend to be sensitive to nicotine.⁽²³⁾

It is supposed that the sensation seeking factor predisposes the individual to engaging in dangerous activities.^(20,22) This personality trait has been associ-

ated with participating in risky experiences, radical sports, criminal activities, professional choices, risky sexual behavior, smoking, alcoholism, use and abuse of illicit drugs, and gambling. Therefore, the hypothesis is that individuals with high scores in sensation seeking tend to underevaluate/underappreciate risks, compared with individuals with low scores. For these individuals, the degree of anticipatory anxiety when facing these activities is lower, when compared with that of those with low scores.⁽²²⁾

There seems to be a strong association between the sensation seeking factor and traits of impulsivity. The definition of impulsivity incorporates elements such as the tendency to get into situations or rapidly respond to stimuli for potential reinforcement, without much planning and without considering the potential risks of punishment or loss of gratification. The impulsivity factor can be considered a deficit in the capacity of inhibiting dangerous behaviors, seeking gratification. Specialists in this matter propose an even wider personality dimension, resulting from the conjugation of these two aspects, denominated impulsivity-sensation seeking, and state that this characteristic is relevant in the predisposition of the individual to run risks in general and, among them, the consumption of tobacco or other drugs.⁽²²⁾

Another theoretical model of approaching the issue of the relationship between smoking and personality was formulated in a study conducted in 1985.⁽²⁴⁾ The authors propose five major personality factors: neuroticism, extroversion, conscientiousness, openness to experiences, and agreeableness/cooperation. The individual with high scores in the neuroticism factor can be characterized as nervous, temperamental, insecure, impatient, not relaxed, emotional, vulnerable, and unstable, among other aspects.⁽²⁵⁾ The neuroticism factor is principally related to negative affection. Therefore, it has been hypothesized that the inclination or tendency to eat, smoke or drink in excess is a reflex of this characteristic. It is supposed that quitting smoking is more difficult for individuals with high neuroticism scores, since the negative affection caused by abstinence is stronger for them.⁽²⁵⁾

The extroversion factor comprises characteristics such as sociability, fondness, and spontaneity, as well as being talkative, active, warm, and not a loner. The individual with high scores in the factor of being open to new experiences can be described as being

original, imaginative, creative, curious, courageous, independent, liberal, and nontraditional, as well as having broad interests and preferring variety.⁽²⁵⁾

The individual with high scores in the conscientiousness factor can be characterized as conscientious, careful, reliable, willing, well-organized, meticulous, scrupulous, self-disciplined, tidy/neat, punctual, practical, energetic, connected to work/business, informed, perseverant, etc. However, there are two lines of interpretation for the meaning of this personality factor. The conscientiousness dimension refers, on one hand, to the strength of the superego, or to self-control/inhibition of impulsive behaviors. However, the conscientiousness dimension is related to the determination to succeed as well, or need for achievement. Finally, the individual with pronounced traits of agreeableness/cooperation can be described as cooperative, reliable, generous, flexible, lively, direct, nice, courteous, not irritable, etc.⁽²⁵⁾

There is evidence of an inverse association between high scores for the conscientiousness factor and smoking.^(13,26-29) The literature presents various hypotheses on the nature of this association. Pronounced traits of this personality factor during childhood are associated with a lower risk of smoking and other unhealthy behaviors during adult life. Certain people might engage in unhealthy behaviors due to their high impulsivity and lack of consideration regarding short- and long-term consequences of their behavior. The conscientiousness dimension comprises characteristics such as perseverance and discipline, which can contribute to adopting healthy behaviors.⁽²⁷⁾ The conscientiousness factor is associated with behaviors of protection of health. This set of personality characteristics can act as a mediating factor for individual perception of risk. An individual can, for example, believe that smoking is a health hazard and yet be unable follow through on plans to quit smoking due to a lack of self-discipline, which impedes the modification of the smoking behavior.⁽²⁷⁾

Although the results remain controversial on certain points, smokers tend to be more extroverted, tense, anxious, depressive, and impulsive, as well as presenting greater neuroticism, psychoticism, sensation seeking, search for novelties, tendencies toward antisocial/unconventional/risky behaviors, together with traces of mood disorders, when compared with nonsmokers and former smokers.

Comorbidity between smoking and psychiatric disorders

An increasing interest in the study of the comorbidity between smoking and mental disorders is observed, since smoking has various implications in daily clinical practice. Nicotine interferes with the functioning of neurotransmission systems and exerts various neuroendocrine effects, which, together with the other effects of nicotine, can influence the psychopathological profile and patient responsiveness to treatment.⁽³⁰⁾

Some authors consider that studies on the comorbidity between nicotine dependence and psychiatric disorders can be grouped into two distinct areas⁽³¹⁾: 1) smoking and psychiatric disorders, with emphasis on depression and schizophrenia; and 2) interaction among drugs, especially alcohol and nicotine. This is an issue of great clinical interest with profound implications and can even create a basis for therapeutic proposals.

Smoking and depression/depressive disorders

There is strong evidence of comorbidity between smoking and depressive disorders. The probability of smoking cessation is reduced in patients with depression disorders. Smokers with a history of depression are more prone to relapses during the period of abstinence, when compared with smokers without the same history. In smokers with a history of depressive disorders, smoking cessation is a risk factor for maintaining the clinical profile or the development of a new depressive outbreak.^(7,32,33)

There are different hypotheses on the nature of this association. Smoking can help as a sort of self-medication to relieve feelings of sadness or negative mood. There is evidence that the use of nicotine interferes with neurochemical systems, which, in turn, affect neural circuits, such as reinforcing mechanisms associated with mood regulation.⁽³³⁾ It has also been hypothesized that, the relationship between smoking and depression is more than unidirectional, i.e., that one can influence the other. Depressed smokers can smoke to relieve negative feelings, and smoking therefore becomes reinforcing for these individuals. However, upon cessation of consumption, smokers with a history of depression can be at an increased risk of developing a new

depressive episode, which can increase their predisposition to relapse.⁽³⁴⁾ Finally, a fourth hypothesis has been presented by some specialists^(33,35): a series of common variables, such as genetic and psychosocial factors, contribute to the expression of both (smoking and depression).^(33,35)

In view of this, it is fundamental to be aware of the characteristics of the patient during the treatment for dependence. Before the initiation of treatment, it is necessary to evaluate whether there is predisposition to major depression, in order to provide systematic follow-up evaluations of the patient.^(31,34) In these cases, it is recommended that major depression be treated prior to the cessation of smoking.

There is a consensus regarding the efficacy of antidepressive medications in the treatment of dependence. The principal medication currently used is bupropion.⁽³⁶⁾ In addition, the smoker can benefit from psychotherapeutic techniques. One strategy that has presented positive results when used in conjunction with medication is cognitive behavioral therapy. The basis of this treatment consists, among other aspects, of leading the smoker to identify the risk situations for relapse and develop strategies to face those situations.⁽³⁶⁾

Smoking and Anxiety

There is also evidence of association between smoking and anxiety, although this relation is even less consistent, when compared with the relationship between smoking and depression.^(2,37) It has been hypothesized that the nature of the relationship between smoking and anxiety varies according to the diagnosis of the anxiety disorder.^(38,39)

Smoking and Obsessive-Compulsive Disorder

There is evidence that the prevalence of smoking is lower in individuals with obsessive-compulsive disorder (OCD) than in the population in general or in other psychiatric populations.^(38,39) Due to symptoms such as exaggerated attention, detailed planning, uneasiness, exaggerated preoccupation, sense of responsibility, lack of spontaneity, and controlled emotions, as well as rituals of care and neatness, OCD can be considered a hyperfrontality disorder. Patients who suffer from OCD present pronounced metabolic activity in the frontal cerebral cortex. It

is interesting to notice that, in contrast with OCD, frontal lobe activity is reduced in individuals with schizophrenia. The prevalence of smoking in individuals with schizophrenia and in individuals with OCD seems to represent two extremes of the same continuum.⁽³⁸⁾

It is argued that the low consumption of tobacco in individuals with OCD can reflect a subjacent genetic factor, possibly related to serotonergic and cholinergic systems. Personality traits, such as impulsive and risky behavior, extroversion, unconventional behaviors, and antisocial tendencies, are related to tobacco consumption and precede the initiation of the habit. Coincidentally, many of these personality traits are rare in individuals with OCD, which could explain the low prevalence of smoking in individuals with this disturbance.⁽³⁸⁾

One of the hypotheses is that the low prevalence of smoking in individuals with this disturbance is related to the neurochemical effects of nicotine in the orbital frontal cortex. A study based on neuroimaging revealed that patients with OCD present pronounced metabolic activity in the orbital frontal cortex. However, individuals with schizophrenia exhibit reduced metabolic activity in the frontal lobe, similar to that resulting from lesions in this region. Since nicotine increases frontal lobe activity and reduces the abnormality in sensory physiology, it is possible that smoking is a type of self-medication in individuals with schizophrenia. Nevertheless, theoretically, nicotine would cause a contrary effect in individuals with OCD, reinforcing obsessive symptoms, which could contribute to the low prevalence of smoking in individuals with this disturbance.⁽³⁸⁾

Psychosocial determinants can also affect this association. Individuals with OCD are frequently more isolated in school. However, less socially competent young adults might start smoking due to peer pressure in early adolescence. In addition, characteristic symptoms of OCD, such as fear of diseases and fear of starting a fire, can help these individuals avoid developing the habit of cigarette smoking.⁽³⁸⁾ Therefore, the subject is complex, and further studies are still needed in order to confirm these results. The issue also underscores the need to investigate the nature of this association. The identification of the factors responsible for this inverse association can contribute to understanding the dynamics subjacent to smoking.

Smoking and Panic Disorder

In recent decades, the relationship between panic disorder (PD) and smoking (or nicotine dependence) has been investigated by various specialists.⁽⁴⁰⁻⁴²⁾

There is evidence that smoking constitutes a risk factor for the appearance of PD. Various studies show that smoking precedes the appearance of the disease, rather than the opposite.^(39,43,44) However, the mechanisms responsible for this association have not yet been elucidated. A study conducted in 2001 states that the consumption of tobacco should not be considered an exclusive etiologic factor in any case of PD, and that further studies are needed in order to clarify the possible etiopathogenic mechanisms that smoking and this disease have in common, as well as to answer specific therapeutic questions.⁽⁴¹⁾

The literature as a whole suggests that the nature of the connection between smoking and anxiety differs according to the profile or specific diagnosis of the anxiety disorder. However, specialists in the subject have called attention to the importance of taking into account the association that smoking presents with anxiety symptoms, anxiety disorders, and mood disorders when establishing preventive programs or treatments. It is essential, for example, that health professionals who deal with adolescents know how to recognize symptoms of anxiety and depression. By preventing problems of an affective nature, it might be possible to decrease the risk of initiation of smoking in adolescents.⁽⁴⁵⁾ In treatment programs for dependence, techniques and strategies for the control of anxiety and management of stress, such as muscle relaxation and meditation, have been increasingly adopted. The conjugation of drug therapies, used in combination with techniques of this nature, can increase the efficacy of the treatment of tobacco dependence.⁽³⁶⁾

Smoking and Schizophrenia

The prevalence of smoking in individuals with schizophrenia tends to be higher in relation to the population in general as well as in relation to other psychiatric populations.⁽³⁰⁾ Although the consumption of tobacco is decreasing in the population in general, patients with schizophrenia continue to smoke in alarming numbers and to suffer the ill health consequences of smoking.⁽⁴⁶⁾

A variety of mechanisms could mediate this association. Tobacco consumption might reflect the institutionalization process, as well as the tedium and low impulse control presented by individuals with this disease.⁽³⁰⁾ The hypothesis of the use of tobacco as self-medication stands out. Individuals with schizophrenia report that smoking is relaxing, reducing anxiety and minimizing the side effects of medication.⁽⁷⁾ In addition, tobacco consumption can improve concentration, reduce unpleasant hyperstimulation experienced by individuals with schizophrenia, and promote one of the few available pleasures for many individuals with the disease. In addition, it is also possible that nicotine reduces negative schizophrenia symptoms, such as apathy, tedium, and emotions related to withdrawal syndrome, while improving the processes of attention and concentration.⁽³⁷⁾

This suggests the existence of a set of complex psychopathological, biochemical, and neuropharmacological interactions mediating the interface between smoking and schizophrenia.⁽⁴⁶⁾ However, the subject is controversial, and there are other lines of interpretation. Individuals with schizophrenia are less worried about social conventions and the long-term consequences of smoking to health, and are less likely to quit smoking. In addition, the social alienation typically experienced by individuals with schizophrenia frequently results from its concomitance with certain factors, such as low socioeconomic level and belonging to a socially marginalized group, that tend to increase the prevalence of smoking. Therefore, it is necessary to adopt differentiated practices in patients with schizophrenia who wish to stop smoking, such as altering the doses of medication in smokers who abstain from tobacco, using nicotine replacement therapy in higher doses, using a combination of nicotine patches and gum, as well as providing cognitive behavioral therapy.

Smoking and attention deficit disorder

The prevalence of smoking in adolescents and adults with attention deficit disorder (ADD) or hyperactivity tends to be greater than that seen among individuals without ADD.⁽⁴⁷⁾ An increasing number of studies have been developed in an attempt to elucidate the causes of this relationship.⁽⁴⁸⁻⁵⁰⁾ One of the hypotheses is that tobacco consumption in individuals with ADD results from

an attempt at self-medication to relieve the symptoms of this disturbance. Smoking is possibly used as a resource to improve attention and cognition processes.^(48,51) As an example, the administration of nicotine patches in nonsmokers with ADD improves cognitive functioning.⁽⁵²⁾

Comorbidity between ADD and abuse of or dependence on psychoactive substances in general is also high. It is postulated that the association between ADD and drug abuse/dependence reflects an attempt at self-medicating the symptoms of the disturbance. However, the literature suggests that multiple factors, including personality characteristics, as well as genetic and neurobiological determinants, can mediate the interface between smoking and ADD.^(48,49)

Tobacco consumption during pregnancy can constitute a risk factor for the subsequent appearance of this problem in the affected child.^(50,53,54) In view of this, we can infer that it is fundamental to provide educational programs for pregnant women in order to make them aware of the multiple risks of smoking during pregnancy.

Smoking and alcoholism

The literature reveals a strong association between smoking and disorders related to alcohol abuse or dependence.^(31,37) The prevalence of alcoholism is approximately 10 to 14 greater in smokers than in nonsmokers, and most studies suggest that alcoholism precedes smoking.^(31,55) Studies that confirm the connection between genetic factors and personality traits can create a basis for investigations designed to identify which genes are associated with a complex network of unhealthy behaviors, such as aggression, excessive alcohol consumption, and smoking, as well as with mental disorders such as schizophrenia, in order to improve treatment programs.⁽⁵⁶⁾

Smoking and other Mental Diseases

Prospective studies carried out with ethnically distinct populations reveal that the consumption of tobacco during pregnancy is associated with a greater incidence of criminal or violent behavior in adult life among males.⁽⁵⁷⁾ In the studies mentioned, the association found remains, even when the analyses are adjusted for the influence of other risk factors for criminal behavior. Studies

indicate that smoking during pregnancy precedes the appearance of behavior disorders in children and adolescents. In addition, in these studies, the association found remains, even when the analyses are adjusted for the influence of other risk factors for such problems.⁽⁵⁸⁾ The incidence of subsequent criminal behavior might be mediated by damage to the nervous system of the fetus, caused by the toxic substances contained in tobacco smoke.⁽⁵⁷⁾

Final considerations

There is strong evidence that personality traits are influenced by determinants of genetic and neurobiological nature, among other factors.^(56,59) The most widely accepted concept is that variations observed in personality characteristics are due, at least in part, to the activity of neurotransmitters. The role of mechanisms of transmission and capture of neuroregulators, such as dopamine and serotonin, noradrenalin, and norepinephrine, stands out. In addition, genetic and neurobiological factors can also act in the predisposition to personality disorders and psychopathological profiles.⁽⁶⁰⁾

However, in contrast to the effort to understand the genetic determinants of the risk of alcoholism and chemical dependence in general, there are still a relatively small number of studies in the literature focusing on the genetic mediation of the associations among personality, psychopathology, and smoking.⁽⁵⁹⁾

In comparison with former smokers and nonsmokers, smokers tend to be more extroverted, tense, impulsive, depressive, and anxious, as well as presenting more traits of neuroticism, psychoticism, and sensation seeking, together with tendencies toward antisocial/unconventional behaviors. In addition, it is well established that the prevalence of smoking is higher in patients with psychiatric disorders than in the population in general. There is evidence that these associations are mediated by genetic and neurobiological factors.

However, this line of interpretation does not rule out the interference of other factors in tobacco smoking behavior. For example, a study carried out in Japan in 1997 revealed a pronounced gender-related difference in the prevalence of smoking (60% for males and only 8.6% for females),⁽¹²⁾ in contrast with studies carried out in other countries. This leads us to believe that tobacco smoking

behavior is also mediated by the psychosocial and sociocultural context. It is supposed that genetic and neurobiological factors, interacting with psychosocial/sociocultural dynamics, simultaneously influence the principal personality dimensions of the individual and the predisposition to smoking/psychopathological profiles.

It is possible to state that knowledge of the psychological/psychiatric factors associated with smoking is important for practical purposes and can be incorporated into the treatment of the nicotine-dependent individual. We can suggest that, prior to initiating the process of smoking cessation, all patients should be evaluated as to the personality profile and the presence or absence of certain associated psychiatric disturbance, since the lack of nicotine can exacerbate the withdrawal syndrome symptoms and even favor the appearance or worsening of psychiatric diseases.

The close interconnection between smoking and psychopathological profiles underscores the importance of interdisciplinary co-operation among professionals working in treatment programs for nicotine dependence. The crucial role of the psychological/psychiatric evaluation and follow-up assessment of the patient throughout the therapeutic process is especially emphasized.

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