Revista Brasileira de Psiquiatria

REFERÊNCIA

MORANA, Hilda C. P.; STONE, Michael H; ABDALLA-FILHO, Elias. Personality disorders, psychopathy, and serial killers. **Revista Brasileira de Psiquiatria**, São Paulo, v. 28, supl. 2, p. s74-s79, out. 2006. DOI: http://dx.doi.org/10.1590/S1516-44462006000600005. Disponível em: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1516-44462006000600005&lng=pt&nrm=iso. Acesso em: 12 jan. 2021.

Personality disorders, psychopathy, and serial killers

Transtornos de personalidade, psicopatia e serial killers

Hilda C P Morana,[1,2] Michael H Stone,[3] Elias Abdalla-Filho[2,4,5]

Abstract

Objective: *To illustrate the basic characteristics of several specific personality disorders, focusing mainly in antisocial personality disorder. The differences between antisocial personality disorder and psychopathy are highlighted. Serial killers and its psychopathic aspects are also discussed.* ***Method:*** *A bibliographic review was completed in order to outline convergences and divergences among different authors about this controversial issue, especially those concerning the possibility of treatment.* ***Results:*** *While anti-social personality disorder is a medical diagnosis, the term "psychopathy" (which belongs to the sphere of forensic psychiatry) may be understood as a "legal diagnosis". It is not still possible to identify an effective treatment for serial killers.* ***Conclusion:*** *Personality disorders, especially of the antisocial type, still represent a formidable challenge to forensic psychiatry today. Questions as yet unanswered include the best and most humane place for patients with this condition and the nature of a standardised treatment recommendation.*

Descriptors: *Forensic psychiatry; Antisocial personality disorders; Conduct disorders; Homicide; Antimanic agents*

Resumo

Objetivo: *Apresentar as características básicas dos diversos transtornos específicos de personalidade, mas centrando-se no transtorno de personalidade anti-social, fazendo sua diferenciação com psicopatia. O estudo ainda se propõe a abordar a figura do* serial killer*, apontando a presença de aspectos psicopáticos no homicídio seriado.* ***Método:*** *Uma revisão bibliográfica foi feita no sentido de se abordar convergências e divergências entre diversos autores sobre um assunto tão polêmico, sobretudo quanto à viabilidade de tratamento dessa clientela forense.* ***Resultados:*** *Enquanto o transtorno de personalidade anti-social é um diagnóstico médico, pode-se entender o termo "psicopatia", pertencente à esfera psiquiátrico-forense, como um "diagnóstico legal". Não se pode falar ainda de tratamento eficaz para os chamados* "serial killers"*.* ***Conclusão:*** *Os transtornos de personalidade, especialmente o tipo anti-social, representam ainda hoje um verdadeiro desafio para a psiquiatria forense. O local mais adequado e justo para seus portadores, bem como recomendação homogênea e padronizada de tratamento são questões ainda não respondidas.*

Descritores: *Psiquiatria legal; Transtornos da personalidade antisocial; Transtorno de conduta; Homicídio; Agentes antimania*

[1] Universidade de São Paulo (USP), São Paulo (SP), Brazil
[2] Department of Ethics and Legal Psychiatry, Brazilian Association of Psychiatry, São Paulo, Brazil
[3] Columbia University, New York, USA
[4] Universidade de Brasília (UnB), Brasília (DF), Brazil
[5] Brasília Institute of Legal Medicine, Brasília, Brazil

Correspondence
Hilda C. P. Morana
Rua Marquês de Paranaguá, 36, apto. 62 - Consolação
01303-050 São Paulo, SP, Brasil
E-mail: hildacpm@uol.com.br

Introduction

The tenth revision of the International Classification of Diseases (ICD-10) describes specific personality disorder (PD) as a severe disturbance of the character and behavioral tendencies of the individual. It is unlikely that this disturbance is directly imputable to any disease, injury, cerebral disorder, or psychiatric disorder, and it typically involves various areas of the personality, almost always being associated with personal and social alienation.[1]

Although not exactly diseases, PDs are anomalies of the psychic development. in forensic psychiatry, they are considered mental health disturbances. These disorders involve the disharmony of affectivity and excitability, together with impaired integration of impulses, attitudes, and conduct, which manifests in the interpersonal relations of the individual.

In fact, laypersons often view individuals presenting this type of disorder as problematic and as being difficult to engage in interpersonal relations with. Individuals with PDs are unproductive, when their life history is considered, and, over the long term, are unable to establish themselves. Their behavior is usually turbulent, their attitudes are incoherent, and their actions are ruled by a need for immediate gratification. Therefore, PDs translate into relevant interpersonal clashes, which occur due to the disharmony of the organization and integration of the affective-emotional life of the individual. On the forensic level, PDs acquire greater importance, since it is not rare for individuals presenting these disorders (especially those presenting antisocial characteristics) to become involved in criminal acts and, consequently, in judicial proceedings.[2]

Since PDs are permanent conditions, the incidence rates and prevalence rates are equal. Worldwide, the incidence of PDs in the general population ranges from 10% to 15%, and each type of disorder accounts for 0.5% to 3%.[3-4] Among adult Americans, 38 million present at least one type of PD, corresponding to 14.79% of the population.[5]

This specific type of disorder (PD) is characterized by insensitivity to the feelings of others. When this degree of insensitivity is high, leading marked affective indifference, the individual is apt to adopt a recurrent pattern of criminal behavior, and the clinical profile of the PD takes the form of psychopathy.

Etiology

There are studies that indicate a lack of neuropsychiatric risk factors for the development of antisocial PDs.[6] Organic factors, such as obstetric complications, epilepsy, and cerebral infection, have been investigated. Abnormal electroencephalography findings have also been observed in individuals with antisocial PD who committed crimes. One of the abnormalities most often reported is the persistence of slow waves in the temporal lobes.[2] According to Eysenck and Gudjonsson, who formulated the General Arousal Theory of Criminality,[7] there is a common biological condition underlying the behavioral predispositions of psychopaths. These individuals are likely to be extroverted, impulsive thrill seekers, presenting a nervous system that is insensitive to low levels of stimulation (they are hard to please and are hyperactive in childhood). Therefore, in order to increase their level of stimulation, they participate in high-risk activities, such as crime.

Biology and molecular genetics have been progressively contributing to the understanding and treatment of psychiatric patients. However, to date, it has not been possible to find specific genes for the various mental disorders.[8] In PDs, genes can be held responsible for the predisposition rather than for the disorder. Consequently, it is essential to consider the environment in which the individual lives, as well as the interaction established with this environment.

The concept of spectrum has been used in order to demonstrate that, according to the environmental interaction, even an individual presenting a determinant gene might not develop the predicted mental disorder or might develop it in a wide spectrum of clinical configurations.

Various studies[9] have confirmed the existence of genetically-determined personality traits. Studies with monozygotic twins have revealed very similar behavior in terms of personal, social, and professional choices, even in individuals raised in different environments. Significant concordance has also been found in the development of PDs, much higher than that found in dizygotic twins. These results were later confirmed in studies including adopted children.

There are still biological aspects that are not of a genetic nature, but that also interfere with the development of the personality. As an example, behavior that is more aggressive can be related to higher testosterone levels. However, increased serotonin levels can generate behavior that is more sociable.

With regard to the interaction between the individual and the environment, special importance has been attached to early relationships, due to their influence on the formation of the nucleus of the personality of the individual. It is known that negligence and abuse suffered by a child whose brain is being shaped by experiences create an anomaly in the brain circuits, which can lead to aggressiveness, hyperactivity, attention disorders, delinquency, and drug abuse.

Classification

The ICD-10 describes eight types of specific PDs: paranoid, schizoid, antisocial, emotionally unstable, histrionic, anankastic, anxious, and dependent.

1) Paranoid PD is characterized by self-referential thinking: a predominance of distrust, oversensitivity to setbacks, and the perception of being constantly harmed by others.

2) Schizoid PD is predominated by detachment, a lack of interest in social contact, affective withdrawal, difficulty in feeling pleasure, and a tendency toward introspection.

3) Antisocial PD is characterized by indifference to the feelings of others (which can lead the individual to adopt cruel behavior), disdain for norms and obligations, a low tolerance for frustration, and a low threshold for the perpetration of violent acts.

4) Emotionally unstable PD is marked by impulsive and unpredictable manifestations, presenting two subtypes: impulsive and borderline. The impulsive subtype is characterized by emotional instability and uncontrolled impulses. The borderline subtype, in addition to emotional instability, presents self-image perturbations (causing difficulty in defining personal preferences) and a consequent feeling of emptiness.

5) Histrionic PD is characterized by a prevalence of egocentrism and a low tolerance for frustration, as well as theatricality and superficiality. Individuals with histrionic PD are ruled by the need to be the center of attention.

6) In anankastic PD, concern about details prevails, together with rigidity and stubbornness. However, the repetitive and intrusive thoughts seen in anankastic PD do not attain the level of severity that would lead to a diagnosis of obsessive-compulsive disorder.

7) Anxious (or elusive) PD is predominated by oversensitivity to criticism, persistent feelings of tension/apprehension, and a tendency toward social withdrawal (due to insecurity regarding social capacity, professional capacity, or both).

8) Dependent PD is characterized by behavioral deficit, lack of determination and lack of initiative, as well as by an unstable sense of purpose.

However, in the present study, our focus will be antisocial PD. This is the type of PD that is given the most importance in the forensic sphere due to its close association with psychopathic behavior.

Diagnosis

To date, psychiatrists have had difficulty in making a diagnosis of PD. This is aggravated by the fact that many psychiatrists manifest disinterest in disorders of this nature. Knowing that pathologies of this type are permanent and refractory to treatment, few psychiatrists consider it worthwhile to provide specialized treatment to individuals with PD.[10] Quite often, a diagnosis of PD is only considered when the evolution of the mental disorder under treatment is unsatisfactory.

The diagnostic evaluation faces worldwide controversy centered on the divergence of opinion between those who believe that conducting open interviews is more valuable and those who believe in administering standardized tests. Although some professionals base their diagnosis on information provided by their patients and direct examination of how those patients manifest emotionally, others prefer to use standardized tests with directive questions.[2] According to Western, the diagnostic investigation of antisocial PD is one that most benefits from structured interviews, because the indices regarding the behavior of the patients with this condition are quite objective.[11]

To make a diagnosis of PD, a thorough and detailed symptomatological evaluation is necessary. The complete life history of the individuals examined is investigated in order to determine whether or not the lifetime pattern of behavior is abnormal. The psychic process dynamics, despite being extremely important, can confuse the professional in the categorization of PDs. For example, a psychiatrist can confuse the affective state of schizophrenia, or even that of schizoidism (which is characterized by a deficient affective expression), with the indifference and affective insensitivity of antisocial PD.[12]

No reliable instrument has yet been created for the diagnosis of PD. Consequently, the diagnostic reliability index is low, with a Kappa index of 0.51.[13] Self-administered instruments have proven inefficient in identifying these disorders. In addition, it is recommended that a diagnosis of PD not be made until the individual in question has reached the age of legal responsibility (16 or 17), and a diagnosis of conduct disorder is preferred.

The characteristics related to PDs manifest in specific circumstances, when the situations experienced by the subject have such significance that they trigger peculiar reactions, which, in turn, express the latent psychic dynamics. This disposition, however, can interfere in a more or less intense way with the subjective dynamics and with the various types of interpersonal relationships.

It is important to consider that PDs can present as a spectrum of psychic dispositions that, to a highly pronounced degree, make it difficult to distinguish them from psychopathies, which do not constitute a medical diagnosis but a forensic psychiatry term. Nevertheless, it is plausible to configure significant pattern differences using data from the Rorschach test and the "cut-off point" of the Hare scale (described below). In cases of psychopathy, the anomalous dynamism has proven to be more extensive, involving the psychic life of the individual in such a comprehensive way that this condition has special importance to forensic psychiatry, especially due to the fact that it presents great affective insensitivity, and this would make rehabilitation processes difficult.

According to Hare, psychopaths are fundamentally different from other criminals. The author carried out a study in order to identify parameters that distinguish the psychopathic condition and created a research instrument: the psychopathy checklist-revised (PCL-R) scale. This scale is a 20-item checklist, recently validated for use in Brazil by Morana, with scores ranging from zero to two points for each item, with a maximum of 40 points.[14]

The cut-off point is not rigidly established, but a score of over 30 points would characterize a typical psychopath.[15] The scale comprises the following 20 elements: 1) loquacity/superficial charm; 2) inflated self-steem; 3) need for stimulation/tendency toward boredom; 4) pathological lying; 5) control/manipulation; 6) lack of remorse or guilt; 7) superficial affect; 8) insensitivity/lack of empathy; 9) parasitic lifestyle; 10) fragile behavioral control; 11) promiscuous sexual behavior; 12) early-onset behavioral problems; 13) lack of long-term realistic goals; 14) impulsiveness; 15) irresponsibility; 16) inability to assume responsibility; 17) many short conjugal relationships; 18) juvenile delinquency; 19) revocation of parole; and 20) criminal versatility.

In a recent study, Morana et al., through the cluster analysis of criminal subjects classified as having antisocial PD, established two types of antisocial PDs: global PD and partial PD. These two types were found to have statistical equivalence with psychopathy and nonpsychopathy as established by Hare et al. The study was carried out using the cut-off point obtained on the PCL-R. The PCL-R score ranges for the forensic population studied were as follows: noncriminal (0 to 12); partial PD (12 to 23); and global PD (23 to 40). The group presenting partial PD, according to their scores on the PCL-R scale, presents a form of the characteriological manifestation that is significantly attenuated in relation to that seen in the psychopath group. The cluster analysis can confirm that partial PD is an attenuated form of global PD. This makes it relevant for use in differentiating the risk of criminal recidivism among the population of criminals.[16]

Making the differential diagnosis between PDs and neurotic disorders with any degree of precision is a difficult goal to attain. Neurotic disorders and PDs can both present as rigid behavior. However, one of the aspects to be analyzed is the degree of "risk aversion".[17] This aversion predominates among neurotics, since individuals in this population fear whatever can cause them any harm and blame themselves for their failures in life. Still, individuals presenting antisocial PD present a strong tendency to blame others for their failures and their quarrels.

Expert opinion

In the expert evaluation, it is essential to carefully observe the individuals examined from the very moment they enter the evaluation room. The individuals examined tend to repeat, albeit unconsciously, their pattern of mental functioning, mostly in the way this pattern manifests in

interpersonal relationships, and this can be used as a diagnostic criterion.

In the expert-subject relationship itself, it is possible to notice some signs that reveal a disordered personality with antisocial or even psychopathic characteristics. Psychopaths are frequently described as individuals who lack empathy.[18] Empathy is the ability to mentally put oneself in the place of another and imagine what the other person is experiencing emotionally. In English, the expression used to define this term is "to be able to put oneself in the other person's shoes", that is, to be able to feel what the other feels.

Some authors[19] have made the following references regarding the (in)capacity of psychopaths to empathize and to have an emotional response.

1) Psychopaths understand the facts very well but do not care.

2) It is as though the emotional processes were a second language for them.

3) They know the words but not the music.

In other words, they are incapable of true empathy, and this can be perceived in the interpersonal relationship at the moment of the expert evaluation. The patients examined can understand what others feel, from an intellectual viewpoint, since their sense of reality does not alter under these conditions, but they are incapable of feeling as normal people do in terms of more differentiated feelings.

Psychological evaluations can be very useful for the diagnostic investigation of PDs. Since individuals presenting antisocial PD are typically manipulative, they might try to choose their words carefully during the expert evaluation, simulating, dissimulating, and, in short, manipulating their responses to the questions asked. Psychological tests make this manipulation difficult and provide complementary diagnostic elements.

Another element that can be very useful in the expert investigation of PDs is conducting interviews with family members, which can reveal important facts regarding the life history of the subject, such facts being essential for the diagnosis.

Criminal culpability and legal capacity

Variations in the behavior pattern that are considered normal but do not constitute actual mental diseases are conditions that demand special attention in forensic matters. In Brazilian forensic psychiatry, PDs are considered mental health disturbances rather than diseases.

In the penal sphere, the capacity to understand and make decisions is examined according to the understanding of an individual who has committed a criminal offense. The capacity to understand depends essentially on the cognitive capacity of the individual, and this cognitive capacity is preserved, as a rule, in individuals presenting antisocial PD, as well as in psychopaths. In Brazil, the capacity to make decisions is evaluated based on the volitional capacity of the individual. This volitional capacity can be partially impaired in individuals presenting antisocial PD and in psychopaths, which can generate a legal condition of semi-imputability. However, the capacity to determine may be preserved in cases of mild disorders in which there is no causal relationship with the criminal act. According to the Brazilian legislation, semi-imputability empowers judges to decrease penalties or (when special curative treatment is medically recommended) to order defendants to a hospital.

The safety measure of administering special curative treatment is, in turn, highly controversial due to the great difficulty in treating individuals with antisocial PD. Another point that is worth questioning is the application of an inpatient or outpatient treatment regimen depending on the type of penalty generally given for the crime committed rather than on the medical-psychiatric profile presented.

In the civil sphere, although there are various other requests, the psychiatric exam most commonly employed in Brazil is that used for interdiction purposes, in which the capacity of the individuals to run their own lives and administer their assets is evaluated. Most individuals with antisocial PD do not suffer any judicial intervention. However, more severe cases can generate partial intervention.

Treatment

There is international debate regarding the feasibility and breadth of the treatment for the several PDs, especially the antisocial type. According to Adshead, PDs still represent a therapeutic challenge, and the author proposes a model consisting of seven factors in order to check the feasibility of their treatment. The factors are as follows: 1) the nature and severity of the pathology; 2) the degree to which the disorder invades other psychological and social spheres, as well as its impact on subject functioning in various sectors of life; 3) previous health status, current comorbidities, and risk factors; 4) the time at which the diagnostic was made and the therapeutic intervention occurred; 5) the experience and availability of the therapeutic team; 6) the availability of specialized units for the treatment of special conditions; and 7) scientific knowledge regarding this disorder, as well as cultural conceptions regarding its treatment.[20]

Patients presenting PDs require an excessive amount of attention on the part of the team of professionals, and many are considered irritating and difficult to handle, which contributes to countertransferential difficulties, thereby making treatment even more difficult.[21] There is some evidence to suggest that individuals who fully meet the criteria for psychopathy are not treatable by any form of therapy currently available. Their general egocentrism, and their contempt for psychiatry in particular, make treatment quite difficult.[22]

However, Berry et al., in a study of 48 cases of individuals considered psychopaths, found only 21 patients (44%) to be nonresponsive to treatment after a one-year trial. The authors suggested that there is a correlation between negative therapeutic response and the following factors: prison record predominating over hospital record; previous refusal to undergo treatment and lack of response to it; crime in which the victim was unknown to the patient; and low level of motivation to undergo treatment.[23]

Nevertheless, some patients with antisocial PD who are not psychopaths respond to psychotherapy.[24] However, patients composing another segment of that population, despite being nonresponsive to treatment at first, present behavioral changes after the age of 40, abandoning certain behaviors that, in the past, caused them to have problems with the law.[25]

According to Davison, the principles of the treatment are the same as in any chronic condition. In other words, the basic conditions cannot be changed, but there is an attempt to relieve the symptomatology. Lithium can be useful for the treatment of aggressive behavior, and anticonvulsants, such as topiramate, can relieve symptoms of mood instability, irritability, and impulsiveness. Antipsychotic agents may be

efficacious in controlling symptoms of this nature, which are sometimes presented by borderline patients. Antidepressants (selective serotonin reuptake inhibitors) can also be useful in treating borderline patients.[21] However, benzodiazepines, used to treat other types of PDs, such as the paranoid or the histrionic type, must be avoided in the treatment of antisocial PD, since these patients are at high risk of substance abuse.

Various types of psychotherapy have been proposed. The best results have been achieved through the use of those whose objective is to treat specific symptoms, and dialectic behavior therapy has been receiving international recognition for its efficiency in the treatment of PDs. Cognitive behavior therapy can be useful, but few studies have devoted attention to the use of this therapeutic method in the treatment of PDs.[24]

Serial killers

For the purposes of the present study, the term 'serial killer' will only be used to refer to men who committed three or more sexual serial killings, separated by intervals of varying duration. There are other forms of serial killing, such as murders committed by health professionals (nurses, physicians) who poison patients in hospitals or even in their residences, or killings committed by women, in which there is often no sexual element. As previously stated, the present study addresses crimes committed by men who killed for sexual reasons. There are various biological, psychological, and sociological factors that are relevant in sexual serial killings.

With regard to personality characteristics, in a study carried out by Stone, 86.5% of the serial killers met the Hare criteria for psychopathy, and another 9% presented only a few psychopathic traits (not enough to be classified as psychopaths). A remarkable finding of that study was the fact that approximately half of the serial killers presented schizoid personality, as defined in the DSM-IV. Some schizoid traits were present in another 4% of the research subjects. Sadistic PD, as described in the appendix of the DSM-III-R, were present in 87.5% of the men and discrete traits were found in 1.5% of them.[26]

Finally, that study showed great superposition between psychopathy and sadistic PD: 93% of the serial killers with psychopathy also presented sadistic disorder. Half of the psychopaths were schizoid. Almost half presented criteria for the three types of PD: psychopathic, schizoid, and sadistic.

Whereas the schizoid personality might reflect a hereditary disposition in many instances, the sadistic personality seems more likely to be the result of severe aggression in childhood (physical, sexual, or verbal) that were neglected. Throughout the development of the individual, sadism frequently appears as an "antidote" against the experience of having been abused, and those who were victimized in the past become victimizers as adults.

However, there are some serial killers with decidedly sadistic tendencies who do not have a history of having suffered abuse in childhood. Their path to sadism is not clear, although it may be a combination of extreme narcissism and a cerebral configuration in which regions related to empathy are significantly deficient, and this would lead the killers to be totally indifferent to the suffering of their victims. Among the most sadistic serial killers, there are various who experienced great violence and humiliation at the hands of one or both parents,[27-28] although there are also those who did not experience such violence.[29]

According to Hazelwood and Michaud, most serial killers present sexually sadistic behavior. Although taking pleasure in the suffering of another is a common and important ingredient in sexual sadism, the desire to dominate the other person and for the complete subjugation of that person to the wishes of the perpetrator are crucial ingredients for many sexual sadists.[30] This was clearly expressed in the words of one of the best-known serial killers (Mike DeBardeleben), who once wrote: "the central impulse is to have total control over the other person, make this person the helpless object of our desire... do whatever we want to this person in order to have pleasure... and the most radical objective is to make the person suffer".[30] Various findings indicate that serial killers can present a variety of sexual perversions, including necrophilia and cannibalism.

With regard to the possibility of treatment, most serial killers prove to be psychopaths. Many deceive their would-be victims and lure them to areas where they (the victims) cannot resist. When these serial killers are arrested, they deceive penitentiary employees, as well as mental health professionals, making them think, after a certain period of time, that they "have learned their lesson" and are ready to be re-introduced into society. The decisions made by such authorities lead to grave errors that can cost the lives of new victims. The literature is full of such examples.[31]

In addition to the explicit danger of releasing these men, who have already concretely committed sadistic sexual killings, back in the community, there is a need for additional caution in terms of considering public sentiment. Releasing murderers who present this degree of risk for committing further violent acts would rarely be tolerated by society. Once individuals have been proven to be serial killers and have been identified as incorrigible enemies of the people, their permanent exclusion from the community by means of imprisonment seems to be the only prudent alternative.

Conclusion

Treating PDs, especially those of the antisocial type, still represents a formidable challenge for the forensic psychiatrist. This is not only because of the difficulty in identifying PDs, but also because of the need to advise the justice system regarding the most appropriate place to house patients with this condition and how to treat them. Patients who reveal psychopathic behavior and commit serial killings need special attention due to the high probability of criminal recidivism. In addition, governmental organizations should be made aware of the need construct appropriate places for these individuals to be held in custody.

References

1. Organização Mundial de Saúde. Classificação de transtornos mentais e de comportamento da CID-10: descrições clínicas e diretrizes diagnósticas. Porto Alegre: Artmed, 1993.
2. Abdalla-Filho E. Transtornos da personalidade. In: Taborda JGV, Chalub M, Abdalla-Filho E. *Psiquiatria Forense*. Porto Alegre: ArtMed Editora; 2004.
3. Dobbels F, Put C, Vanhaecke J. Personality disorders: a challenge for transplantation. *Prog Transpl*. 2000;10(4):226-32.
4. Maier W, Lichtermann D, Klinger T, Heun R, Hallmayer J. Prevalences of personality disorders (DSM-III) in the community. *J Personal Disord*. 1992;6:187-96.
5. Bienenfeld D. Personaliy disorders. *eMedicine*. 2002;3(4). [citado maio 5]. Disponível em: http://www.emedicine.com/med/topic3472.htm.

6. Coid JW. Aetiological risk factors for personality disorders. *Br J Psychiatry*. 1999;174:530-8.
7. Eysenck HJ, Gudjonsson GH. The causes and cures of criminality. Plenum Press; 1989.
8. Knowlton L. Nature versus nurture: how is child psychopathology developed? *Psychiatric Times*. 2005;XXII(8).
9. Kaplan HI, Sadock BJ, Grebb JA. Personality disorders. In: Kaplan, Sadock's. Synopsis of Psychiatry. 7a ed. Baltimore: Williams & Wilkins; 2000.
10. Kendell RE, Zealley AK. Companion to psychiatric studies. Edinburgh: Churchill Livingstone; 1993.
11. Westen D. Diagnosing personality disorders. *Am J Psychiatry*. 2001;158(2):324-5.
12. Mejia VY, Vanman EJ, Dawson ME, Raine A, Lencz T. An examination of affective startle modification, psychopathy, and negative schizotypy. [poster] 37th Annual Meeting of the Society for Psychophysiological Research, Cape Cod, Massachusetts; October, 1997.
13. Lopez-Ibor JJ. The axis on clinical disorders (axis I) of ICD-10. Newsletter World Psychiatric Association, IX World Congress of Psychiatry; 1993.
14. Morana H. Escala Hare PCL-R: critérios para pontuação de psicopatia revisados. Versão brasileira. São Paulo: Casa do Psicólogo; 2004.
15. Abdalla-Filho E. Avaliação de risco de violência em psiquiatria forense. *Rev Psiquiatr Clin*. 2004;31(6):279-83.
16. Morana H, Câmara FP, Arboleda-Flórez J. Cluster analysis of a forensic population with antisocial personality disorder regarding PCL-R scores: differentiation of two patterns of criminal profiles. *Forensic Sci Int.* In press.
17. Hollander E, ed. Obsessive-compulsive-related disorders. Washington DC: American Psychiatric Press; 1993.
18. Eslinger PJ. Neurological and neuropsychological bases of empathy. *Eur Neurol*. 1998;39(4):193-9; Erratum: *Eur Neurol.* 2000;37(2):267.
19. Kiehl KA, Hare RD, McDonald JJ, Brink J. Semantic and affective processing in psychopaths: an event-related potential (ERP) study. *Psychophysiology*. 1999;36:765-74.
20. Adshead G. Murmurs of discontent: treatment and treatability of personality disorder. *Advan Psychiatr Treat*. 2001;7:407-16.
21. Davison S. Principles of managing patients with personality disorder. *Advan Psychiatr Treatment*. 2002;8:1-9.
22. Hare RH. Without conscience: the disturbing world of psychopaths among us. New York: Pocket Books; 1993.
23. Berry A, Duggan C, Emmet L. The treatability of psychopathic disorder: how clinicians decide. *J Forensic Psychiatry*. 1999;10(3):710-9.
24. Beck A, Freeman A. Cognitive treatment of personality disorders. New York: Guilford Press; 1990.
25. Black DW. Bad boys, bad men: confronting antisocial personality disorder. New York: Oxford University Press.
26. Stone MH. Serial sexual homicide: biological, psychological, and sociological aspects. *J Personal Disord*. 2001;15(1):1-18.
27. Michaud S. Lethal shadow: the chilling true-crime story of a sadistic sex slayer. New York: Onyx; 1994.
28. Glatt J. Cries in the desert: the shocking true story of a sadistic torturer. New York: St Martin's Paperbacks; 2002.
29. Lasseter D. Die for me: the terrifying true story of the Charles Ng/ Leonard Lake torture murders. New York: Pinnacle//Kensington Books; 2000.
30. Hazelwood R, Michaud SG. Dark dreams: sexual violence, homicide and the criminal mind. New York: St Martin's Press; 2001.
31. Stone MH. Personality disordered patients: treatable and untreatable. Washington, DC: American Psychiatric Press; 2006.