Behavioural technology in the treatment of problems and behaviour disorders within the classroom

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ABSTRACT

From the behavioral perspective, the treatment of different problems and behavior disorders has been very effective over time, as a result of a successive experimentation, and the constant updating that has been done in this applied field of science. There is a clear difference between behavioral problems and disorders, which are mainly based on their incidence, and their appearance in different contexts, independently from the presence of other control agents. In the latest edition of the Diagnostic and Statistical Manual of Mental Disorders, we can see the different indicators that describe punctually a behavioral disorder, among them: Severe rupture with the norms and the absence of respect towards the rights and freedoms of others, connection with other spheres related to human development - social, academic, working - and with a previous appearance before 18 years of age (if it occurs after this age, we may be talking about an antisocial personality disorder). This issue has been addressed both by specialists in the field of Psychology and by others related to this discipline - educators, counselors -when facing a complex reality. For this, the technology of functional analysis has been designed under the parameters of operant conditioning. The process of operationalization has given specialists the possibility of studying carefully behavioral problem over time, thus establishing the limits between what is considered a problem and a disorder itself. Likewise, this has generated a greater understanding of the complex and intricate understanding of behavioral disorders by both the specialists involved and the users of the service. As a consequence of the evolution of the behavioral approach, and of the evidences found after a successive experimentation and careful study of the existing relationships among the complex variables involved -before difficult to manipulate-, for a better study of these it has been proposed to perfect the functional analysis. This resulted in a series of models that have allowed the specialists to perform a complete analysis of these problems, in addition to categorizing the variables depending on their functional characteristics. Independently of generating only a purely clinical diagnosis, it was also proposed to develop a functional technology that defines and clarifies the complex network of variables that determine the current condition of the problem, as well as its antecedents and its future occurrences, with the purpose of improving the individual and group intervention in the classroom, thus facilitating the work of the different specialists involved in this field at the moment of administering the different behavioral-cognitive technologies, respecting both their principles and laws, facilitating the management of these problematic conditions, regardless of the context where they are carried out.

Keywords. Behavioral disorders. Evaluation. Differential diagnosis. Executive functions. Scales and instruments for detecting behavioral problems. Educational field.

Introduction

During the last decades, the approach to behavior problems and disorders has become one of the main reasons for consultation for both children and adolescents, as well as a constant concern on the part of parents and teachers around the world (Adhikari et al., 2015; Prakash, Mitra, and Prabhu, 2008; Sylva, 1994).

A behavioral disorder is the result of a dysfunctional condition and background, established over time, the persistence of which can be observed by the generalization of anomalous behaviors to different contexts and / or realities. In general, they are independent of another etiological condition, both neurological and psychiatric. However, due to the complexity of the case, these may be associated with certain clinical groups and with a similar symptomatology (American Psychiatric Association, 2013, Grillo and Da Silva, 2004).

In this regard, the main challenge for the experts is to define the etiology and clinical profile of the case, in addition to selecting the appropriate technologies to carry out the best evaluation procedure and / or detection of the different symptoms presented by the subject studied, as well as the clarification of the nature of the problem, the parameters of its behavior and its occurrence in certain time and space (Flanagan, Allen, and Levine, 2015).

From this, the success of the intervention will depend on the selection of behavioral technologies, which will need to be supported by a careful and meticulous analysis of the different types of altered responses, in addition to the historical study of the case and its relationships and projections within the context - home, school-, which will be possible from the efficient administration of applied behavioral analysis (Fisher, Piazza and, Roane, 2013, Pierce and Cheney, 2004).

Behavioral disorders

Behavioral disorders are defined as those clinical cases that present a set of persistent alterations, at the level of the different types of responses - cognitive, emotional, motor, social, academic - significantly affecting the prosocial behavior of the environment where it is performed. They are independent of the environment, as a consequence of a dysfunctional history of problems and / or antecedents in the form of one or more anomalous and/or disruptive patterns, thus generating a pathological condition, persistent and - depending on its magnitude - resistant to change.

Likewise, they are independent of the presence of damage and/or brain dysfunction, psychiatric disorders, emotional instability and/or social deprivation (American Psychiatric Association, 2013).

It is a complex clinical picture to define per se, because there are a set of conditions and determining factors, which can be both innate and acquired. However, due to the seriousness of the case, it is necessary to mention the psychopathological conditions and their etiology, in addition to the main clinical characteristics, which will be described below.

a. **Etiology and clinical characteristics**

In this regard, it is necessary to mention cases associated with disruptive and persistent behavior disorders -as primary or secondary alterations-, such as antisocial (dissocial) disorder, oppositional defiant disorder and unspecified behavior disorders (American Psychiatric Association, 2000).

As a main condition, all of these have to appear before the age of 18 -they generally evolve throughout childhood, being of early onset (Table 1). The first of the aforementioned is characterized mainly by a general breakdown of order and social regulation, associated with manipulative behaviors and control of the actions of the rest for the benefit of oneself. Often, these pictures evolve, as early as adulthood, towards an antisocial personality disorder (The British Psychological Society & The Royal College of Psychiatrists, 2013).

Table 1. Differential diagnosis of the different behavior disorders, according to the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders.

Diagnostic criteria	Behavior disorders		
	Antisocial disorder	**Oppositional defiant disorder**	**Other behavioral disorders**
Origin	Contextual	Contextual	Contextual
Appearance	Childhood	Childhood	Childhood
Cognitive aspects	Preserved	Preserved	Relatively preserved
Affectivity	Unstable	Unstable	Unstable
Cognitive behavior	Intentional manipulator	Manipulator	Manipulator
Motor behavior	Regulated	Regulated	It depends on the profile
Social behavior	Intended towards your own benefit	Conflictive	It depends on the profile
Psychopathological evolution	Antisocial personality disorder	Addictive, impulse control and other disorders	Uncertain. It depends on the profile

The second of these is characterized by anger and irritability, a constant confrontation with authority (defiant behavior) and a vengeful attitude. In the third group you can find different tables with the aforementioned characteristics, without being able to define their clinical condition in a specific way, due to the heterogeneity that accompanies them and defines them (Frick, 2016; Frick and Viding, 2009 Jucksch, Salbach-Andrae, and Lehmkuhl, 2009; Widiger, De Clercq, and De Fruyt, 2009).

In the current edition of the Diagnostic and Statistical Manual of Mental Disorders (2013), these clinical entities are included in another category, along with impulse

control disorders, mentioning other disorders such as intermittent explosive disorder, antisocial personality, pyromania, kleptomania and others of undefined nature (Table 2), each of its alterations being specific to the different kinds of responses.

Table 2. Evolution of the classification of behavioral disorders, according to the American Psychiatric Association.

Classification system			
DSM-IV		**DSM-V**	
Disorders of attention deficit and disturbing behavior		**Destructive disorders, impulse control and behavior**	
Attention deficit hyperactivity disorder		313.81 (F91.3).	Defiant negativist disorder.
F90.0.	Combined type..	312.34 (F63.81).	Intermittent explosive disorder.
F98.8.	Type with predominance of attention deficit.	Behavior disorder	
		312.81 (F91.1).	Type of infant initiation.
F90.0.	Type with hyperactive-impulsive predominance.	312.82 (F91.2).	Type of adolescent start.
		312.89 (F91.9).	Start type not specified.
F90.9.	Attention deficit disorder with hyperactivity not specified.		Specify if: With limited prosocial emotions.
F91.8.	Dyssocial disorder (specify type: Infant initial/adolescent onset).	301.7 (F60.2).	Antisocial personality disorder.
F91.3.	Defiant negativist disorder.	312.33 (F63.1).	Pyromania.
F91.9.	Disruptive behavior disorder not specified. .	312.32 (F63.2).	Kleptomania.
		312.89 (F91.8).	Another destructive disorder, impulse control and specified behavior.
		312.9 (F91.9).	Destructive disorder, impulse control and unspecified behavior.

Recent research has pointed out the direct implication that executive functions have on the control and self-regulation of behavior, associating the disruptivity of the latter with alterations related to this complex brain function (Araujo, Claustre, Bonillo, and Capdevilla, 2014; Houssa, Volckaert, Nader-Grosbois, and Noël, 2017), and / or circumscribed with neurobiological bases defined at the level of the prefrontal cortex, being these valued from studies and functional neuroimaging techniques (Nowrangi, Lyketsos, Rao, and Munro, 2014; Robinson , Calamia, Gläscher, Bruss, and Tranel, 2013).

Clinical evaluation of behavior disorders

Under the definition of the initial terms and of the findings found at the level of observation and clinical interview, it is necessary to carry out the formulation of an instrumental evaluation plan, which allows to detect the difficulties, clarify the clinical scenario and define the magnitude of disruptive behavior (problem), with the purpose of generating and developing efficient clinical and educational intervention plans, which can also be adapted to any context (Bagner, Rodríguez, Blake, Linares, and Carter, 2012; Saur and Loureiro, 2014; Talbot, 1983).

Next, the importance of scales and psychometric questionnaires, and functional behavior analysis (FBA), an operating procedure that has become the instrument of use and employment in these cases, demonstrating both objectivity and efficiency, will be mentioned, under the eyes of an expert clinician.

a. **Scales and questionnaires**

The psychometric evaluation has become a priority in this area, facilitating the work of both psychologists and teachers, allowing both these and their families a better understanding of the conditions of the child and / or adolescent diagnosed with a behavioral disorder. There are countless scales and instruments for detecting the different behavioral alterations in the child-adolescent population.

In English, there is the Behavior Assessment System for Children (BASC), a questionnaire that has made it possible to detect in a general way the behavioral disorders presented in the studied case, defining the profiles and the most critical conditions of these (Door, 2004), which is constantly updated according to the new studies carried out with this instrument (Reynolds & Kamphaus, 2015).

Adaptations of this scale have been made in the Spanish language, demonstrating its usefulness and effectiveness in different contexts and in cases where the presence or persistence of some behavior alteration is suspected (Pineda et al., 1999). Likewise, scales have been created for the detection of behavioral disorders in cases of attention deficit hyperactivity disorder (ADHD) - a clinical case frequently associated with behavioral disorders - which are very useful, although they are related to the time of carrying out the diagnostic procedure and the accuracy of the pathology (Blázquez-Almería et al., 2005; Farré and Narbona, 2013).

It is necessary to point out that the use of psychometric technology will respond only to an initial administration procedure, which has to be complemented with a detailed study of the different variables which are present and of the classes of responses involved, under the functional analysis procedure of behavior (FBA).

b. **Functional analysis of behavior**

It is important to highlight the role played by the functional behavior analysis (FBA) within both clinical and educational areas. Moreover, it is the technology that par excellence would provide a better and reliable indicator of the presence of one or more symptoms related to a conduct disorder (Labrador, 2008).

The classic FBA procedure maintains the guidelines and foundations established by the first operating procedures - antecedent conditions, operant responses, consequent stimuli - in addition to the definition of the characteristics of the stimulus or the response studied, based on some support parameters - type, force, magnitude (Labrador, López and Cruzado, 2004).

However, as a consequence of the evolution of behavioral technology -and consequently, of Third Generation behavioral therapy-, other ideographic procedures have emerged, called the Functional Analytic Clinical Case Diagram (FACCD), which have successfully responded to the study and analysis of the complex condition that accompanies these clinical cases (Haynes, Gody, and Gavino, 2011).

c. **Operationalizing the problem behavior and establishing baselines**

According to the classic approach, this procedure is carried out based on the definition of certain parameters, such as geographical conditions (the physical conditions where the behavior manifests itself), demographic (the participating agents within it) and topographic (movements, displacements). This, in addition to the objective description of the different types of responses and their dysfunctional characteristics -in excess, in defect and in deficit-, allows it to be manipulated according the occurrence and / or frequency of the occurrence of the problem (Labrador, 2008).

In this regard, it is important to highlight the role played by the identification of the problematic behaviors, being this objective and measurable, as long as the necessary care is carried out, since this will define the relationship between existing contingencies -considering the principles of the operant behavioral model-, as well as the understanding of the functional relationships between the different variables involved, thus establishing the set of baselines that define both the regularity and the irregularity of the problematic behavior.

After having done the above, it is possible to complement the study of the case from a complex approach, identifying the different multicausal relationships, the mediating and moderating variables present at a certain moment, and using ideographic diagrams, which can be adjusted to the study of any problem, regardless of its etiology (Virués-Ortega and Haynes, 2005). This procedure will be possible, as a consequence of the

careful study carried out on the real conditions that define and contextualize the problem, based on the use of direct and / or indirect records, which will be very useful within an evidence-based practice.

Differential diagnosis

Differential diagnosis allows us to define the goals and lines of intervention, guides the choice and the use of the most suitable strategies in cases where the use of behavioral technology is demanded. The presence of other primary disorders is usuallya consequence of damage and / or neurological dysfunction (neurodevelopmental disorders), which are often associated.

Frequently, after the administration of questionnaires and psychometric scales -and, in some cases, of semi-structured instruments-, a general clinical diagnosis is formulated, basically centered on nosological criteria that generally serve the specialist as a guide of reference for the conditions of the clinical case, which can be addressed through behavioral intervention procedures. Therefore, it is necessary to carry out functional diagnosis, which allows to clarify the nature of the problematic behaviors, the frequency and occurrence of them, the existing functional relationships between them, and the independent variables to be considered, the dependents to control and intervenors to be taken into account.

For this, it is necessary, in the first instance, to define and clarify the aspects in defect, in deficit and in excess, according to the type of response, in order to define the real conditions of the clinical profile to be studied, complementing it with a complex study and analysis, if possible, through the use of FACCD.

After the establishment of the clinical profile or, otherwise, the identification of the symptomatology closest to the disorder in question -the presence of a mixed comorbidity is not ruled out-, it will be necessary to program the entire sequence of the operative approach, which will allow to control the situation better, initially establishing a real baseline, which will facilitate the process of addressing, predicting and evolving problematic behaviors over time.

It should be noted that without neglecting the role of other lines or trends within Psychology, behavioral technologies are undoubtedly the most efficient when addressing this problem.

Conclusions

At present, behavioral disorders -behavioral disorders- have become one of the most frequent problems and reasons for consultation within both clinical and educational settings, so their detection and diagnosis has become one of the main tasks to to be solved by the different specialists involved in this field.

Behavioral disorders are defined as all those clinical cases that present persistent difficulties at the level of the different response classes-cognitive, motor, emotional, social, academic-significantly affecting the stability of the context in which it is performed. In turn, they are considered as a complex category, whose etiology is closely related to the dysfunctional conditions of the context in which the child is raised. They usually have an early onset, being persistent over time, since they respond to a basic behavioral repertoire defined by multiple functional relationships. Likewise, they may be present, although secondarily, in other disorders of different etiology (Vg.: Intellectual disability, attention deficit hyperactivity disorder, autism, etc.).

After the updates made regarding the diagnostic classification, different clinical cases have been included within this group, such as the antisocial disorder (dissocial), the oppositional defiant disorder, the intermittent explosive disorder, the antisocial personality disorder and other disorders (pyromania, kleptomania), specific and nonspecific.

In order to carry out the assessment and evaluation procedure of these disorders, it is necessary to design an instrumental plan, where scales and questionnaires are selected, both psychometric and semi-structured, aimed at identifying the main problems related to the different types of response, establishing accordingly their corresponding baselines. Once this is done, it is important to complement the exploration of the case by preparing an FBA, which, depending on the complexity of the case and the participating variables, would allow the use of a FACCD, in order to clarify the real problems to study.

Finally, the differential diagnosis in these cases will depend on the expertise of the clinician, based on the evidence found after a careful examination and the collection of evidence, after adequate administration of the instruments available those of a behavioral nature are recommended. Of this last, the selection of the behavioral technology to be applied during the treatment and the success of it will depend on the careful analysis to be carried out.

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