### Medicalization beyond physicians: pharmaceutical marketing on attention deficit and hyperactivity disorder in Argentina and Brazil (1998-2014)

Medicalización más allá de los médicos: marketing farmacéutico en torno al trastorno por déficit de atención e hiperactividad en Argentina y Brasil (1998-2014)

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#### **Abstract**

From a critical analysis of medicalization studies, and as a contribution to these perspectives, we describe and analyze the ways in which the transnational pharmaceutical industry penetrates diverse social spaces, with different marketing strategies, to consolidate medicalized processes in Argentina and Brazil. We analyzed two expansion methods of medicalization processes and specific ADHD diagnostic and treatment aspects and trends were developed in both countries: the impact of the pharmaceutical industry on advocacy groups in Brazil and pharmaceutical marketing strategies aimed at non-medical actors in Argentina. These two methods are characterized by involving other actors than medical professionals. The methodology includes data from research conducted in Argentina and Brazil between 1998 and 2014, based in the University of Buenos Aires and in the State University of Rio de Janeiro, focused on the study of ADHD diagnostic and treatment processes and methylphenidate consumption in both countries. We used individual and group semi-structured interview techniques with professors and health professionals, official and professional organization statistics, and national and international

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general and specialized literature. We concluded that the phenomena documented in Argentina and Brazil highlight the importance of conducting investigations that covers specific aspects of empirical cases and their multiple connections with broader and intense knowledges networks, dispositives, normatives and actors involved in the medicalization in the 21<sup>st</sup> century. **Keywords:** Medicalization; Pharmaceutical Industry; Advocacy Groups; ADHD; Argentina; Brazil.

#### Resumen

Desde un análisis crítico de los estudios de la medicalización, y como un aporte a estas perspectivas, describimos y analizamos los modos en que la industria farmacéutica transnacional penetra en diversos espacios sociales, con diferentes estrategias de marketing, interviniendo en la consolidación de procesos medicalizadores en Argentina y Brasil. Se analizan dos modalidades de expansión de los procesos de medicalización, y se desarrollan aspectos y tendencias específicas del diagnóstico y tratamiento del TDAH en ambos países: la incidencia de la industria farmacéutica en los grupos de apoyo en Brasil y las estrategias de marketing farmacéutico orientadas a actores no médicos en Argentina. Estas dos modalidades se caracterizan por no involucrar sólo al profesional médico. La metodología incluye datos de investigaciones conducidas en Argentina y Brasil entre 1998 y 2014, con sede en la Universidad de Buenos Aires y la Universidade Estadual do Rio de Janeiro, orientadas al estudio de los procesos de diagnóstico y tratamiento del TDAH y el consumo de metilfenidato en ambos países. Se emplearon técnicas de entrevista semiestructurada individual y grupal a profesores y profesionales de salud, estadísticas oficiales y de organizaciones profesionales, y revisión de bibliografía general y especializada nacional e internacional. Concluimos que los fenómenos documentados en Argentina y Brasil ponen de relieve la importancia de efectuar investigaciones que contemplen aspectos singulares de los casos empíricos, y sus múltiples vinculaciones con entramados más amplios y en tensión de saberes, dispositivos, normativas y actores involucrados en la medicalización en el siglo XXI. Palabras clave: Medicalización; Industria Farmacéutica; Grupos de Apoyo; TDAH; Argentina; Brasil..

#### Introduction

The perspective of the medicalization criticism has more than half a century (Clarke; Shim, 2011). Its original definition associated with the expansion of the medical domain has been reconfigured, currently covering a complex space of intelligibility that includes the definition, description, understanding, and treatment of a problem in medical terms (Conrad, 2007, 2013). Initially focused on physicians, social movements and inter-professional organizations, nowadays, it also targets the transnational pharmaceutical industry, biotechnology, internet, health markets, and consumers (Conrad, 2005, 2013). These elements reinforce the position of authors, such as Lupton (1997), who supports the thesis that the asymmetry between the medical power and patient power is no longer enough to understand the issues involving contemporary medicalizing processes.

At the same time, the problems related to the attention deficit hyperactivity disorder (hereinafter ADHD) have aroused the interest of different social thinking frameworks. The line of analysis of the society's medicalization processes represented by Conrad and his colleagues, in particular, has been developing an analysis of ADHD as a paradigmatic example of such processes and transformations for 40 years (Conrad, 1975; Conrad; Schneider, 1992; Conrad; Potter, 2003; Conrad; Bergey, 2014).

In the most recent analysis of the globalization of ADHD conducted by Conrad and Bergey (2014), a series of mechanisms that contribute to the positioning of the clinical profile as a global diagnosis is marked. In their work, they rank the incidence of non-medical actors in the medicalization processes of ADHD in the 21<sup>st</sup> century and emphasize the need to meet different national cases to understand the migration of the diagnosis of ADHD outside the United States.

From a critical analysis of medicalization studies, and as a contribution to these perspectives, we present herein results of researches conducted in Argentina and Brazil, developing issues and trends with their own and specific particularities and nuances of the diagnosis and treatment of ADHD in both countries, through the description and analysis

of two main methods of expansion of medicalization processes, both characterized by involving not only the medical professionals, but a range of other social groups and actors, institutions and dispositives.

The key issue addressed is the ways in which the transnational pharmaceutical industry enters various social spaces with different marketing strategies, so that the different groups and actors consolidate medicalizing processes. Firstly, we want to describe and analyze how the pharmaceutical industry influences ADHD advocacy groups in Brazil and, secondly, how it intervenes in Argentina, through other major actors in the health and education sectors. On the one hand, the two aspects identified and differentiated by countries respond to a difference of scope in the development of the pharmaceutical marketing in both countries and, on the other hand, to the need to contribute to the configuration of a panoramic view while aspects of a global strategy for both countries of the region are documented.

#### Methodology

The information analyzed comes from the investigations conducted in Argentina and Brazil. For the analysis of pharmaceutical marketing strategies for ADHD in Argentina, we use results of two investigations between 2007 and 2014, both based at the University of Buenos Aires (UBA). We analyzed specialized literature both in Argentina and worldwide, national articles about the subject, official and professional organization statistics, and 65 individual and group semi-structured interviews with health professionals, with clinical, teaching, and research attachment in the public sector, with social security and private sector professionals. Interviews were also conducted with key informants and pharmaceutical sales representatives (PSR) of the pharmaceutical industry.

Interviews were conducted in two stages: 35 between October and December 2007, and between April and June 2008; and 30 from August 2009 until March 2011, in four jurisdictions: Salta, Corrientes, Tierra del Fuego, and city of Buenos Aires. A non-probabilistic purposive sampling criterion was followed. Primary and secondary data obtained were processed with analytical and interpretative

methods, and triangulation methods of sources and results.

For the analysis of ADHD advocacy groups in Brazil, we assessed results of different studies conducted at the State University of Rio de Janeiro (UERJ). One of them aimed at the literature analysis on ADHD, hyperactivity, and methylphenidate in SciELO and PubMed databases. Another study analyzed 103 Brazilian publications, consisting of 72 reports in mass-circulation newspapers and magazines and 31 articles of journals of Psychiatry on the uses of Ritalin®, since 1998 - the year in which the drug was authorized in Brazil - until 2008. The search was focused on the Brazilian Psychiatry journals indexed in SciELO database, as well as in newspapers and journals aimed at the public in general, with the largest circulation (Itaborahy; Ortega, 2013).

Using the semi-structured interview technique with 16 individuals, aged 18 or more, who were users of methylphenidate, a third study focused on the analysis of the senses and meanings of the use of this psychoactive substance by such individuals (Barros, 2014). A fourth study herein analyzed the meanings attributed to the diagnosis of ADHD in a population of educators, by using participant observation techniques and semi-structured interviews with teachers and health professionals, in a school in the city of Niteroi, in the State of Rio de Janeiro (Chagas, 2013).

All investigations comply with the national and international applicable standards and ethical safeguards for studies on human health.

# The diagnosis of ADHD and the latest characteristics of medicalization

With the pioneering studies that analyzed hyperkinesis and deviant behavior, the current classification of ADHD was positioned as an empirical example for the theorization of the problem of the medicalization of society. Focused on the medical institution as a social control agent, Conrad (1975) registered his work in the analyses linking the psychiatry and public health to the deviant social be-

havior, and considers them as social control agents. In the following decade, the ADHD (then called hyperactivity) was also discussed as an example of medicalization of deviance, identifying a series of actors that are still related to the current problems, which include schools, families, pharmaceutical companies and physicians themselves (Conrad, 1982). Subsequently, the analysis of hyperactivity was ranked together with crime and child abuse, as examples of the medicalization of childhood. The distinctive weighting of childhood lies in the fact it is, at the same time, subject to regulations and sanctions, and triggers preventive and protection actions on behalf of the social group, making it a sector of society especially susceptible to be at risk of medicalization (Conrad; Schneider, 1992).

ADHD is presented as one of the pioneering diagnoses in the use of psychotropic drugs for child behavior problems, resulting in extremely high profits for the pharmaceutical industry (Conrad, 2005). However, although initially it was associated with a primarily childhood condition (CDC, 2015) and predominantly borders within the United States (Faraone et al., 2003), more recently, ADHD shows an increase in diagnosis of adults (Conrad; Potter, 2003) and an expansion into other countries (Polancyk et al., 2007;) Conrad; Bergey, 2014; Singh et al., 2013). From the analysis, which understands the medicalization is expressed in gradients, ADHD in adults is a relevant example to illustrate how the psychiatric categories, once established, can expand and include new aspects (Conrad; Potter, 2003). Also to illustrate how patients acquire health-related information and incorporate it in their demands and criticisms to the health professionals they see. In this context, we highlight the incidence of internet and advocacy groups in the medicalization today (Conrad; Leiter, 2004).

More recently, works about ADHD and medicalization that analyze the recreation of the health consumer and the biomedicalization of childhood have been published (Iriart; Iglesias Ríos, 2012). ADHD is also taken as an example of the changes introduced by DSM-5 handbook in the categorizing logic of the so-called mental disorders (Bianchi, 2015).

In line with these changes, Conrad and Bergey (2014) outlined some features of what they call the

"impeding globalization of ADHD", under the expansion of the category outside the United States. They argue that, although the global information is sparse, the available data suggest an increase in the global prevalence of ADHD diagnosis (Polancyk et al., 2007), and an increase in the consumption of medication for ADHD in a wide range of countries. That is why the analysis of ADHD advocacy groups in Brazil and the pharmaceutical marketing strategies about ADHD aimed at parents and teachers in Argentina mean a contribution to increase the still few studies that show how the diagnosis and treatment of ADHD are migrating to different regions of the globe (Conrad; Bergey, 2014; Zorzanelli; Ortega; Bezerra, 2014).

## Globalized medicalization: physicians and beyond them

Although the studies conducted in the 1970s ranked among the most important forces of medicalization to physicians, social movements and interest groups, and some professional or interprofessional organizations since then to now, the medicine has shown significant changes, making other formerly underlying forces to contribute to the process of medicalization. The most recent perspective outlined by Conrad to address the problems of medicalization has the peculiarity of not focusing on the influence of physicians or law reformers, nor in medical and scientific discoveries. His contribution is focused on the creation of markets, and the impact of those markets in the medicalization (Conrad, 2007).

Although the actors involved are similar, the emphasis of each is different, and this is the main key to understand the characteristics of the medicalization of society today. With the changes in the medical setting, important areas of medicalization are moving from a professional-medical dominance to a market dominance (Conrad; Leiter, 2004). Linked to the displacement of the central role of health professionals is the relevance that, in the 21<sup>st</sup> century, acquires the consumption, as a general logic with which to approach the problems related to medicalization processes. Both Conrad and others (Conrad; Leiter, 2004; Conrad, 2013; Conrad; Ber-

gey, 2014) and Clarke and Shim (2013) and Lupton (1997) recognize this displacement and highlight the link between the creation of health markets, the validity of a growing logic of consumption in relation to access to health, and the dominance of the transnational pharmaceutical industry, with its multiple marketing strategies applied to different population segments, as a result of the specific psychiatric diagnosis.

Then, we registered two investigated phenomena, which account for the repositioning of medical professionals and the relevance taken by other actors in the medicalization processes of ADHD. On the one hand, we highlight the deployment of various strategies of pharmaceutical marketing for ADHD in Argentina, which are not aimed at the physician as the main recipient, and on the other hand, its incidence in the advocacy groups in Brazil.

### Argentina: the integration between old and new actors

In the case of ADHD, associations and advocacy groups for patients and families in Argentina do not reach the scale or articulation with pharmaceutical companies existing in Brazil, United States, and European countries.

According to Conrad and Bergey (2014), the pharmaceutical industry identifies certain countries as potential markets for the expansion of ADHD. Some market research companies suggest that the global market of drugs for ADHD is shrunk because there is still no knowledge about the disorder. Facing an oversaturated market like the American market, so-called emerging markets, such as China, India, and Brazil, can contribute to the global growth of the pharmaceutical industry in the short term. This indicates the need for further marketing and advertising campaigns targeted at both physicians and potential consumers.

From the analysis on marketing strategies in the pharmaceutical industry in Argentina, however, we observe a mixture between a physician-oriented marketing model (in which the professional is the main objective) and a consumer-oriented marketing model (which includes family and school) (Bianchi; Faraone, 2015).

Although product promotion methods by pharmaceutical industries involve a range of actors, physicians constitute a historical stronghold, and are irreplaceable when drugs require prescription (Conrad; Leiter, 2004). Besides the well-known strategies of incentives and/or controls (Jara, 2007; Lakoff, 2004), in Argentina and, with respect to ADHD, we also documented the use of healthcare professionals such as disseminators of information, named as opinion leaders or speakers.

Regarding the first strategy, we found that its dynamics has suffered variations regarding the classic method of regular visits to the physician by PSR. In child mental health, we realized that PSRs hardly visit pediatricians, and that the information about psychoactive drugs circulates through publications of laboratories and those socalled "Consensus Guidelines". These guidelines consist of agreements on the clinical practices to follow built from what is known as "available evidence". This consensus comes from expert meetings, often under the sponsorship of laboratories (Gonzalez Pardo; Pérez Álvarez, 2007) and with the support of scientific societies. Thus, protocols and evidence-based medicine were turned into rules to follow and invoke to not be left out of the hegemonic scientific consensus (Iriart, 2008). In general terms, these publications are aimed at child and adolescent psychiatry and child neurology; the latter being the most relevant specialty in the specific case of ADHD in Argentina (Arizaga et al., 2008).

On the other hand, the involvement of opinion leaders is so influential that it is incorporated into the calculations of profitability of the pharmaceutical campaigns (Moynihan; Cassels, 2006). The dissemination of innovations regarding the diagnostics and therapeutics in scientific meetings, media and specialized publications, and the recognition of other professionals, position them as relevant actors in marketing strategies. In the case of ADHD, we highlighted in the sources and interviews that opinion leaders are child and adolescent psychiatrists and child neurologists belonging both to public and private institutions, with renowned medical reputation in the city of Buenos Aires, and other jurisdictions in the country (Faraone *et al.*, 2009).

Among family-oriented strategies, we registered that some laboratories organize groups of two, three or more families to provide information about ADHD. Referred to as "help desks", these meetings are frequently promoted at schools, and carried out in non-medical care areas.

As part of the expansion of objectives of the pharmaceutical industry, Conrad and Bergey (2014) underline that educators position themselves as other non-medical professionals, for whom campaigns are intended. In fact, they point out them as potential sickness and treatment brokers or disease spotters. The school is an outstanding actor in the beginning of the derivation circuit and treatment of ADHD, and teachers contribute, by filling out questionnaires and other instruments in the diagnostic evaluation of the clinical picture.

In Argentina, we documented four pharmaceutical marketing and advertising methods aimed at the educational community. The first, also called "help desk", consists of meetings and informative sessions in schools and especially in education offices carried out by laboratory sales representatives, and sometimes with participation of medical specialists.

The second identified method works through the publication of booklets and newsletters aimed at teachers. These publications contain advice for teachers and detailed information about the drugs used in the treatment of ADHD, statistical data and general advice for detection of clinical profile (Faraone et al., 2010). The third identified method is the merchandising distribution in educational institutions of the city of Buenos Aires and northern area of the province of Buenos Aires, such as school supplies with slogans and images of the psychotropic drug, and with the logo of the laboratory. Finally, we documented the inclusion in journals for teachers and educational psychologists, of articles for the dissemination of drugs for the treatment of ADHD, sometimes dedicating full issues to the topic. Opinion leaders connected to laboratories producing widespread psychiatric drugs are responsible for the authorship of these articles and dossiers.

These methods are not allowed legally in Argentina according to the National Mental Health Law 26,657, approved in 2010, confronting the medical-pharmaceutical hegemony and establishing in its

article 12 that the psychotropic medication must only be prescribed for therapeutic purposes, and never replace the therapeutic monitoring or special care. There is also a regulation in force since 1964, the Law 16,463, which prohibits any form of advertising for medicinal products requiring a physician's prescription. Conrad and Bergey (2014) emphasize that the existence of restrictive regulations of the marketing of psychotropic drugs indicated for ADHD discourages the entry of pharmaceutical companies, and conversely countries such as France or Italy, with less robust legal barriers, offer a greater accessibility and attractiveness to the pharmaceutical industry.

The analysis of pharmaceutical marketing strategies for ADHD in children in Argentina, however, allows questioning these considerations, since the existing national regulations, although it includes prohibitions, restrictions and a perspective of rights for people who are diagnosed with any psychiatric condition, has not resulted by itself in a limitation or discouragement to pharmaceutical marketing strategies; rather, they have demonstrated a remarkable capacity of response, diversifying proposals, actions and offers, and consolidating in the different existing regulatory gaps.

# Brazil: the development of advocacy groups

As stressed out by Conrad and Bergey (2014), the advocacy groups about ADHD, both online and faceto-face, are common in the United States, bringing together different but interested actors, with scopes ranging from local presence, in specific cities, to international associations. Though in Brazil there is not a tradition of movemets of advocacy groups to patients, as there is in United States, there are associations of family and patients with diseases such as autism, ADHD, obsessive compulsive disorder, which play an important role in the dissemination of knowledge about these diseases and in the struggle for better conditions of treatment and citizenship (Nunes, 2014). In countries such as United States, Canada, Australia, and South Africa, some groups seek to combat the medical-scientific discourse about the pathology and healing from the affirmation of an identity different from the normative standard (Ortega, 2009; Baker, 2011; Orsini; Smith, 2010; Orsini, 2009), rather than to secure rights and social inclusion.

In the case of ADHD in Brazil, among the members of the associations of patients and caregivers we find, as well as family members and people diagnosed, medical professionals and internationally recognized researchers, the latter with a strong presence in groups. The best known national group is the Brazilian Association of Attention Deficit (Associação Brasileira de Deficit da Atenção - ABDA), created in 1999. It is a non-profit organization that aims to spread the knowledge about ADHD. Its website (www.tdah.org.br) address is published in various magazines and scientific journals, and has an average of 200 thousand accesses per month.

In addition, the mixed composition of the ABDA turns it into an important means of dissemination for laymen and professionals, being also responsible for the dissemination of biomedical discourse about ADHD in the country, in the form of academic research disseminated both on its website and in journals aimed at the legitimation of ADHD as an organic disorder. On the website of the Association is stated that it is sponsored, among other institutions, professional associations, federations and national and international companies, by the Novartis and Shire Pharmaceuticals, besides the annuity paid by the members. In the website of the Association, they explain what ADHD is, its causes, diagnosis and treatment, as well as to provide advice for family members and patients, and disseminate activities and considerations of professionals working in this field. Among other actions, the Association provides training to health and education professionals about ADHD, through services provided to towns and cities. Professionals and researchers also used the virtual space of the ABDA to answer questions about the ADHD published in non-specialized press, thus expressing opinions and positions on the validity or legitimacy of the content published.

Through the website of the ABDA, it is also possible to identify some of the main Brazilian research centers devoted to the study of ADHD, reporting them as possible search websites for the treatment of patients with the disorder. Some of which contained in the webpage are the Attention Deficit Study Group (GEDA), associated to the Institute of Psychiatry of the Federal University of Rio de Janeiro, located in the southeast of Brazil. The group is responsible for much of the research published about methylphenidate and ADHD in the country, and participates in the Scientific Council of the ABDA. Another group is the Attention Deficit/ Hyperactivity Disorders Program (ProDAH) associated to the School of Medicine of the University of Rio Grande do Sul (Famed/UFRGS), located in the southern region of the country. Another institution appearing on the website is the Santa Casa de Misericórdia of Rio de Janeiro, a philanthropic hospital funded through donations and public financing of some hospital services provided to the population. Linked to the Hospital das Clínicas of the School of Medicine of the University of São Paulo (HC-FMUSP), there are two programs: one for children and teens, called Attention Deficit and Hyperactivity Disorders Out-patient Facility (ADHDA) and the adult-oriented program called Attention Deficit and Hyperactivity in Adults Project (PRODATH).

In addition, we documented that the Alcohol and Drugs Research Unity (Uniad), associated to the Federal University of São Paulo (Unifesp) is in force. These research groups receive the sponsorship of several pharmaceutical companies, such as Janssen-Cilag, manufacturer of Concerta®, Bristol-Myers Squibb, Eli Lilly and Novartis, Abbott and Astra-Zeneca. They usually have free consulting rooms specialized in child psychiatry, and some of the professionals of these research centers are involved in the Scientific Council of the ABDA. making frequent presentations in pharmaceutical laboratories. They are also responsible for a significant number of publications about methylphenidate in the country.

The partnership among the main centers of research in that country promote knowledge about ADHD to advocacy groups to patients, and its partnerships with pharmaceutical companies form an important pole for the dissemination of the official discourse about the disorder, as analyzed by a research conducted at the Institute of Social Medicine, State University of Rio

de Janeiro (Itaborahy; Ortega, 2010). In this research, it was found that the publications in the Jornal Brasileiro de Psiquiatria, major specialized journal in the country, contain, to a large extent, research of GEDA, and that many of them included Concerta® drug ads. The conflict of interest regarding the treatment of the users was stated in them, however in other articles, the financing of laboratories was not explained. In addition, we documented that the supplement to this same journal of the year 2007 was entirely funded by a laboratory responsible for manufacturing methylphenidate, from articles to propaganda. The information gathered leads to consider that the financing of pharmaceutical laboratories in research carried out in the country about ADHD must not be analyzed with a priori criticism about the validity of them, since the need for funding for the development of complex investigations requiring an extensive infrastructure.

However, the direct influence of the presence of the pharmaceutical laboratories in support of the research and its main researchers demand a need for control and evaluation of the process and the ethical implications arising from such sponsorship.

#### Conclusions

Medicalization is not an univocal, homogeneous, or general process. As we argued, Conrad is the main author who highlights the medicalization as a variable process, irregular, and uneven, in function of its target and its related social group. By emphasizing the role of actors outside the medical field, such as the activities of the pharmaceutical industry, pediatrics, associations for children with learning difficulties and the medical journals of the 1960s, the involvement of a multiplicity of vectors in the medicalization process of ADHD was observed (Conrad, 1975).

The globalization of ADHD is being configured with different characteristics in each country, and with the consolidation and differential insertion of actors and links between them. The two cases we presented in Argentina and Brazil are examples of how these processes are occurring,

where the medicalization is extended to nonmedical areas.

In Argentina, the impact of the pharmaceutical industry expresses its versatility in the mixture of marketing strategies, maintaining a focus on the physician as the main recipient, which since any scientific productions surveyed is considered typical of historical moments earlier in the process of medicalization of society, and extending its insertion towards non-medical actors, with a strong influence on the teaching field, and among the parents of children diagnosed with ADHD, in a movement that has been understood as a characteristic of the medicalization of psychiatric diagnosis in the 21<sup>st</sup> century, and its globalization outside the United States and some European countries.

A relevant point is that, although in Argentina there is a long-standing regulation which restricts the advertising of medication, and recent legislation that fights for the rights of people with mental illness, the pharmaceutical industry carried out interstitial actions through which it maintains and expands its marketing strategies.

In Brazil, it is worth mentioning that the topic is gaining ground in recent decades in and out of the reach of the academic research, through publications and reaction movements to what has been termed the medicalization of everyday life (Moyses, 2001; Lima, 2005; Caponi, 2009; Figueira; Caliman, 2014; Meira, 2012; Zorzanelli; Ortega; Bezerra, 2014).

As we stressed, the organization of groups of Brazilian patients has substantial support from specialized professionals. The ABDA, main support group related to the diagnosis of ADHD, has among its members the presence of professionals and researchers of international renown, as well as patients and caregivers. This group, with presence in different regions of the country, disseminates the work of the most important research centers in Brazil in relation to the disorder. The connections between research centers, patient groups and pharmaceutical companies constitute a complex network of training and dissemination of biomedical knowledge about ADHD in Brazil.

The phenomena documented in Brazil and Argentina set the tone of the specificity of local configurations that being raised in relation to the globalization of ADHD as medicalized diagnosis, and highlight the importance of carrying out investigations (including those conducted for this article), which can maintain, at the same time a rigorous approach to researches conducted in other parts of the world, but that address the unique aspects in each empirical national case and its multiple connections with wider and always in tension frameworks, of knowledges, dispositives, normatives and actors involved in the processes of medicalization in the 21<sup>st</sup> century.

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#### **Authors' contributions**

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