The contribution of Latin American and Caribbean studies on culture-bound syndromes for the revision of the ICD-10: key findings from a work in progress

A contribuição dos estudos transculturais dos países latino-americanos e caribenhos para a revisão da CID-10: resultados preliminares

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Abstract

Objective: *This review aims to verify the scientific evidences for the inclusion of culture bound syndromes in the International Classification of Diseases towards its 11th edition based on studies from Latin American and Caribbean countries.* ***Method:*** *Studies were identified in Medline, LILACS and EMBASE databases for the period between 1992 and 2008, and then classified according to the type of study, to the mental disorder, country and number of publications per year.* ***Results:*** *163 studies were selected and classified: 33 in Medline, 90 in EMBASE e 40 in LILACS. The percentage of culture bound-syndrome corresponded to 9% in Medline, 12% in EMBASE e 2.5% in LILACS. Among fifteen studies on cultural bound syndromes, two were about "nervios and ataque de nervios", two about "susto", four about the relationship between religion beliefs, witchery, trance and mental disorders, one with a proposal for new diagnostic category, three about theoretic issues and three about the pathoplasty of mental disorders.* ***Conclusion:*** *The scarcity of studies on culture bound syndromes might be due to the indexation problems hindering the screening of studies; lack of interest on publishing such studies in indexed journals (publication bias) and due to difficulty to access them. There is no robust evidence identified among cross-cultural studies to recommend changes for International Classification of Diseases-11th edition.*

Descriptors*: Latin America; Caribbean region; International Classification of Diseases; Mental disorders; Cross-cultural comparison*

Resumo

Objetivo: Esta revisão visa identificar as evidências dos estudos de países da América Latina e do Caribe para a inclusão das síndromes transculturais na versão da Classificação Internacional de Doenças para sua 11ª edição. **Método:** Os estudos foram identificados nas bases do Medline, LILACS e EMBASE, no período de 1992 a 2008, e classificados segundo o tipo de estudo, tipo de transtorno, país e número de publicações por ano. **Resultados:** Foram selecionadas e classificadas 163 publicações: 33 no Medline, 90 no EMBASE e 40 no LILACS. A percentagem das síndromes transculturais (*"culture bound-syndrome"*) correspondeu a 9% no Medline, 12% no EMBASE e 2,5% no LILACS. Dos 15 estudos sobre síndromes transculturais, dois eram sobre "nervios e ataque de nervios", dois sobre "susto", quatro sobre a relação entre crenças religiosas, "feitiçaria", transe e apresentação dos transtornos mentais, um sobre proposta de uma nova categoria diagnóstica, três artigos teóricos e três sobre psicopatoplastia dos transtornos mentais. **Conclusão:** A escassez de estudos sobre síndromes transculturais pode ter ocorrido pela dificuldade em rastrear os estudos por problema de indexação das publicações, falta de interesse em publicar tais estudos em periódicos indexados e a dificuldade de acesso às publicações. Dentre os estudos identificados, não há uma evidência clara que aponte quais modificações são necessárias nas classificações diagnósticas atuais.

Descritores: América Latina; Região do Caribe; Classificação Internacional de Doenças; Transtornos mentais; Comparação transcultural

Introduction

The World Health Organization (WHO) appointed a task force to review the chapter on mental disorders of the International Classification of Diseases (ICD-10).[1] The classification of mental disorders has been the object of criticism related to the fact that current classification systems are predominantly based on studies and consensus of experts from developed countries.[2] There is a tendency

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in the elaboration of the ICD-11 to avoid the predominance of the hypothesis of universality, which holds that most mental disorders, described and classified according to studies performed in Europe and North America, are universal regardless of cultural factors involved in their presentation.[1] The purpose of the revision, therefore, is to allow evidence of investigations on culture-bound syndromes from different countries to be incorporated in the new version.

Culture-bound syndromes[3-5] consist of groups of psychic symptoms and dysfunctional behaviors with different expressions in specific cultures that may be variations of mental disorders previously described in other countries,[6] as well as constitute distinct and culture-specific syndromes. An additional matter to be considered in the discussion concerns the comorbidity between mental disorders and such syndromes. For example, there are reports of a higher prevalence of mental disorders in patients with culture-bound syndromes, as demonstrated by a study in Puerto Rico in which 63% of people suffering from ataque de nervios *("attack of nerves") were diagnosed with at least one mental disorder.[7]*

In Latin America, initiatives have been implemented to develop specific psychiatric criteria and classifications for the region, such as the Cuban Glossary of Psychiatry (CGP) and the Latin American Guide for Psychiatric Diagnosis (LAGPD).[8] The latter has been developed since 1994 by the Latin American Psychiatric Association (APAL, in the Spanish acronym) under the leadership of Carlos Berganza (Guatemala), Miguel Jorge (Brazil), Angelo Otero (Cuba), and Juan Mezzich (Peru) as an endeavor to formulate the first regional adaptation of the ICD-10.[2,8,9] The guide was based on a study involving 572 psychiatrists to establish standardized diagnostic and clinical practices. The LAGPD describes the regional characteristics of the presentation of mental disorders and the main culture-bound syndromes in Latin America and the Caribbean, such as susto *("fright sickness"),* ataque de nervios *("attack of nerves"), and* mal de ojo[8] *("evil eye").*

Efforts to elaborate the LAGPD are promising in the sense that they foster broad discussions concerning psychiatric classifications; however, regional scientific research should be encouraged to address specific cultural issues.[8-10] This review describes studies from Latin America and the Caribbean published between 1992 and 2008 regarding the classification of mental disorders, with an emphasis on culture-bound syndromes and the purpose of identifying evidence to support the inclusion of these syndromes in diagnostic classification systems, especially for ICD-11. This article presents preliminary data retrieved from three database. At the end of our research, we shall have complementary data including articles found through additional databases (PsycINFO, ISI) and handsearch.

Method

1. Article search and selection

Specific strategies were developed for the searches to be performed in Medline, EMBASE, and LILACS in order to find Latin American studies on the diagnosis and classification of mental disorders and culture-bound syndromes. All search strategies used and the references selected can be found in the Appendix (available at www.scielo.br/rbp). Search limits included period (1992-2008) and studies involving humans.

The selection of studies was based on the following inclusion criteria: (1) studies concerning the diagnostic classification of mental disorders conducted in Latin America or by researchers affiliated to Latin American institutions whose research included local samples; (2) epidemiological surveys and studies on the validity of diagnostic instruments, comorbidity, classification systems, and culture-bound syndromes; (3) studies on the cultural factors associated with mental disorders directly related with diagnostic classifications that included Latin America; and (4) articles in English, Spanish, Portuguese, French, and Italian. The following were excluded from the review: case reports not focused on classifications; reviews on etiology and determinants of mental disorders ot directly related with their classification; studies on treatment, prognosis, clinical practices and guidelines; investigations on the classification of physical diseases with mental symptoms; studies on immigration and acculturation; and editorials and comments.

2. Classification

Selected bibliographic references were classified based on the abstracts and, in the cases of absent or incomplete data, the full texts were examined. Seven categories were established for this classification: (1) Studies on the validity/reliability of diagnostic instruments; (2) Epidemiological studies focused on diagnostic screening and prevalence of mental disorders in Latin America; (3) Studies on the comorbidity between psychiatric disorders; (4) Studies on classification (structure and comparison among classification systems); (5) Studies on diagnostic criteria and new categories; (6) Transcultural studies including culture-bound syndromes and relevant cultural factors for the classification of mental disorders; and (7) Others (this category included studies on topics related with the classification of mental disorders that did not fit into any of the previous categories). Following the classification of references, the agreement between the researchers involved was assessed and disagreements were discussed until consensus was reached.

3. Analysis

The agreement between researchers was measured through the calculation of kappa *and a descriptive analysis was made including the frequency of studies per database, study design, type of psychiatric disorder, country of origin, and scientometric indicators (number of publications per year and database, impact factor, and journals published).*

Results

The searches yielded 521 papers in Medline, 325 in EMBASE,

Table 1 – Distribution of selected studies by database and country

		Database					
		Medline		EMBASE		LILACS	
		n	(%)	n	(%)	n	(%)
Country	Argentina	0	-	0	-	1	(2.5)
	Brazil	4	(12.1)	47	(52.3)	27	(67.5)
	Chile	3	(9.1)	7	(7.8)	10	(25.0)
	Colombia	0	-	3	(3.3)	0	-
	Mexico	18	(54.5)	16	(17.8)	0	-
	Venezuela	0	-	2	(2.2)	2	(5.0)
	Equador	1	(3.0)	0	-	0	-
	Guatemala	2	(6.1)	1	(1.1)	0	-
	Trinidad & Tobago	0	-	2	(2.2)	0	-
	Other*	5	(15.2)	12	(13.3)	0	-
Total		**33**	**(100)**	**90**	**(100)**	**40**	**(100)**

** "Other" refers to multi-center studies.*

and 116 in LILACS. Two search strategies had to be used in each database, one focused on classifications and the other on culture-bound syndromes. Articles were selected by two researchers and kappa *indices for the Medline, EMBASE, and LILACS ranged between 0.41 and 0.66. After the selection and classification of the articles, 163 references had the following distribution: 33 were found in Medline, 90 in EMBASE, and 40 in LILACS (Table 1). With the exclusion of duplicate references in the three databases, 147 articles remained.*

In Medline and EMBASE, around 90% of the scientific production came from six countries in Latin America and the Caribbean, whereas in LILACS the entire production was concentrated in four countries (Table 1). Table 1 shows that more than half of the studies retrieved from Medline came from Mexico, whereas in LILACS and EMBASE more than half of the publications came from Brazil.

Brazil, Mexico, and Chile accounted for approximately 80% of all the publications selected. The countries that published the most studies on the cultural aspects of mental disorders were Brazil (34.4%) and Mexico (25%). Around 50% of all transcultural investigations were specifically related to culture-bound syndromes.

Table 2 shows that more than half of the publications in Medline and EMBASE consisted of epidemiological surveys and studies on the validity and translation of diagnostic instruments. Conversely, more than 70% of the references from LILACS concerned aspects related to the classification of mental disorders. Studies on the cultural elements of mental disorders were more frequent in Medline and EMBASE.

In respect to the most frequent mental disorders among studies vary by database as shown in Table 3: 15 % and 25% of publications in EMBASE and Medline were on depressive and eating disorders, while 30% of publications in LILACS were ondepressive and anxiety disorders and schizophrenia. It is important to note that most of the studies assigned to the category "Others" were related to the prevalence of mental disorders in specific populations and used different versions of the Diagnostic and Statistical Manual for Mental Disorders (DSM) and the International Classification of Diseases (ICD).

Although a proportion of 20-27% of the studies from Medline and EMBASE covered cultural aspects directly related to the diagnosis of mental disorders (Table 2), around 10% of the research studies dealt specifically with culture-bound syndromes (Table 3).

Figure 1 shows the increasing number of epidemiological surveys and studies on the validity and translation of diagnostic instruments over the last decade, especially after 2004. Studies dealing with cultural aspects, although reaching a peak around 2004, have decreased in number.

Table 2 – Classification of publications by type of study in each database

		Database					
		Medline		EMBASE		LILACS	
		n	(%)	n	(%)	n	(%)
Type of study	Validity/reliability	7	(21.2)	21	(23.3)	4	(10.0)
	Epidemiological	11	(33.3)	32	(35.6)	2	(5.0)
	Comorbidity	0	0	4	(4.4)	1	(2.5)
	Transcultural	9	(27.3)	19	(21.1)	4	(10.0)
	Classification	6	(18.2)	10	(11.1)	29	(72.5)
	Diagnostic categories	0	0	3	(3.3)	0	0
	Other	0	0	1	(1.1)	0	0
Total		**33**	**(100)**	**90**	**(100)**	**40**	**(100)**

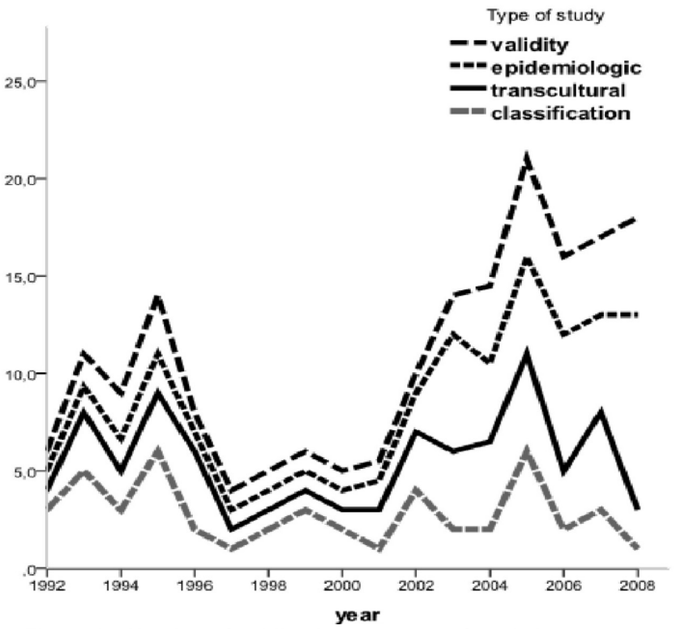

Figure 1 – Number of publications per type of study between 1992 and 2008.

Of the 15 studies on culture-bound syndromes, 2 dealt with nervios *or* ataque de nervios,[11,12] *2 investigated* susto,[13,14] *4 examined the relationship between religious beliefs, Spiritism, witchery, trance, and the presentation of mental disorders,*[15-18] *1 concerned the proposal of a new diagnostic category under the name of "fetal and early trauma syndrome",*[19] *3 were theoretical articles,*[3,20,21] *and 3 dealt with the psychoplastic effect of psychiatric symptoms and clinical picture according to the culture of mental disorders.*[22-24] *All these studies described culture-bound syndromes based on few cases or cultural factors that could be related to the onset of mental disorders. The most commonly reported syndromes in Latin America and the Caribbean were* susto *and* ataque de nervios. Ataque de nervios *was more frequent among women aged over 45, with little education, and who experienced some type of affective loss (divorce) or acute distress. The condition was described as consisting of frequent episodes of loss of control, uncontrollable crying, tremors, and severe anxiety and sadness with somatization symptoms, including muscle and headache, nausea, loss of appetite, insomnia, fatigue, and psychomtor agitation. These manifestations were reported as being acute and remitting quickly (within a few hours and one week), usually when emotional support was provided by family members.* Susto *or fright designated chronic somatic suffering stemming from emotional trauma or from witnessing traumatic experiences lived by others, who became "frightened". Symptoms of* susto *included psychomotor agitation, anorexia, insomnia, fever, diarrhea, confusion, apathy, depression, and introversion.*

Discussion

This review identified around 150 Latin American and Caribbean studies related to the diagnostic classification of mental disorders, with 10% of the publications dealing with culture-bound syndromes.

This result constitutes a paradox in the light of the need to incorporate cultural aspects in the new versions of classification systems, shared by the ICD revision committee and the recommendations from Latin American experts in the LAGPD.[3,8,10]

Some hypotheses can be raised to explain the scarcity of studies on culture-bound syndromes. The first hypothesis is related to the difficulty in elaborating adequate search strategies for the identification of research studies. This problem has to do with the heterogeneous indexation of publications, with different terminologies used and no correspondence across databases. The term "culture-bound", for instance, is not available as a Mesh term in Medline, but the Mesh term "transcultural studies" is contained in the Mesh term "transcultural comparison", which in turn is contained in the Mesh term "culture". The use of these Mesh term, however, was not sufficient to locate studies on the topic. In other databases, descriptors tend to

Table 3 – Classification of publications by type of mental disorder

		Database					
		Medline		EMBASE		LILACS	
		n	(%)	n	(%)	n	(%)
Psychiatric disorders	Depression	4	(12.1)	11	(12.2)	4	(10)
	Schizophrenia	1	(3.0)	3	(3.3)	4	(10)
	Eating disorders	5	(15.2)	3	(3.3)	1	(2.5)
	Alcohol and drug use	3	(9.1)	6	(6.7)	3	(7.5)
	Anxiety disorders	1	(3.0)	9	(10)	4	(10)
	Personality disorders	1	(3.0)	2	(2.2)	2	(5.0)
	Bipolar disorder	0	-	0	-	2	(5.0)
	Attention deficit hyperactivity disorder	0	-	8	(8.9)	0	-
	Dementia	2	(6.1)	9	(10)	1	(2.5)
	Culture-bound syndromes	3	(9.1)	11	(12.2)	3	(7.5)
	Other	11	(33.3)	28	(31.1)	16	(40)
Total		**33**	**(100)**	**90**	**(100)**	**40**	**(100)**

Table 4 – Studies on culture-bound syndromes

Authors	Country	Culture-bound syndrome	Main results	Evidence for change in current classifications
Guarnaccia et al.,1999	Guatemala		Review of literature evidence on culture-bound syndromes. The authors discuss the need for further research in the field and describe in detail which research lines are the most relevant.	No
England et al., 2007	Mexico	*Nervios*	Assessment of 30 rural workers using a quali-quantitative interview. Findings from multivariate analysis showed that the syndrome of *nervios* is multidimensional.	No
Oquendo et al., 1992		*Ataque de nervios*	Description of two cases of *ataque de nervios* and discussion of the difficulties in the use of the DSM-III and DSM-IIIR to perform related diagnoses.	No
Logan, 1993		*Susto*	Describes the syndrome of *susto*.	No
Lee & Balick, 2003		*Susto* *Mal de vientos* Madness	Review on culture-bound syndromes and description of a case report from Brazil. The authors highlight the need to include these syndromes in classification systems as the DSM-IV.	No
Silva de Almeida et al., 2007	Brazil	Trance and possession	Review on how Brazilian psychiatrists classified demonic possession, mediumship, and trance. Most psychiatrists regarded such phenomena as normal.	No
Volcan et al., 2003	Brazil	Spiritual well-being and mental disorders	The authors assessed medical and law students in regard to spiritual well-being and minor psychiatric disorders, observing that, among those with poor spiritual well-being, the frequency of minor psychiatric disorders was five times higher.	No
Dalgalarrondo et al., 1994	Brazil	Religion and mental disorders	Historical study of the Brazilian scientific production on trance and possession phenomena between 1900 and 1950, showing how experts were divided between the understanding of such phenomena as non-pathological cultural manifestations and as pathological and indicative of vulnerability to mental disorders.	No
Moreira-Almeida et al., 1995	Brazil	Religion and mental disorders	Review of the Brazilian Spiritist notion of mental disorders according to the main Spiritist authors, who advocate for new etiologies and treatments of mental disorders without challenging medical and psychological knowledge and treatments.	No
Zoroastro, 2006	Colombia	Early fetal syndrome	The syndrome would affect children of missing people during the military dictatorship in Colombia or born to captive mothers who suffered torture and abuse. These children were separated from their mothers early in life and sold by their captors. The onset of the clinical symptoms of the condition may occur late in life and the condition can be classified as a variant among persistent personality disorders.	No
Serpa Junior, 1994			Review and challenging of the concept of culture-bound syndrome.	No
Valença, 1997			Review on the conceptual relationship between psychiatry and culture, including culture-bound syndromes.	No
Lee, 2003		*Sumso* *Susto* *Hechizo*	Ethnographic study with a population specific to Bolivia (*Chypayas*) describing syndromes that could perhaps be incorporated by current classification systems. *Sumso* is a type of psychotic disorder which is never treated by doctors; *Susto* is described as a variant of post-traumatic stress disorder; and *Hechizo* is described as psychosomatic symptoms related to external phenomena.	No
Littlewood, 2007	Trinidad and Tobago	Madness	The author describes an anthropological study comparing madness and culture-bound syndromes in Trinidad & Tobago and Albania.	No
Rubenstein, 2000	St. Vincent and Grenadines	Reefer madness	The study compares the Reefer madness syndrome described in the USA in 1940 with the same condition in the Caribbean (St. Vincent and Grenadines), allegedly as a result from the use of *Cannabis*. The concept was abandoned by the North-American culture but remains in the Caribbean with peculiar characteristics such as “moral apathy” and “intellectual retardation”. The article discusses cultural factors associated with the condition in the Caribbean.	No

be more generic (e.g., "cultural aspects, culture"). Another related problem was the failure of search engines to identify some publications indexed with the Mesh terms used in the search strategies. For example, 19 studies indexed in Medline and EMBASE were found through handsearch in Google Scholar and were not retrieved by the databases' search engines. We observed that, in the case of culture-bound syndromes like susto *and* nervios*, the terms "cultural aspects" or "transcultural comparison" were not used to index the publications, although the names of the syndromes were used for this purpose despite the fact that they are not formal Mesh terms. In other cases, no Mesh term related to cultural aspects were used. Therefore, the inaccurate use of descriptors may account for missed results in the searches performed.*

The second hypothesis concerns research biases toward topics of interest to high-income countries. In this review, a decrease was seen in the number of transcultural studies from Latin American and Caribbean countries over the past 5-7 years, together with an increase in epidemiological surveys and studies on the validity of diagnostic instruments. The same pattern was observed in an study to map mental health research in 114 middle- and low-income countries,[25] as well as in a another about Latin America which showed that the number of epidemiological studies doubled in less than three years.[26] This suggests that an important share of the research produced in Latin America and the Caribbean is focused on the translation and validation of international instruments under the direct influence of the North American classification system (DSM), with little production of knowledge related to the cultural setting and specificities of mental disorders in Latin American countries.

Another possible explanation for the paucity of transcultural studies involves publication biases and the poor visibility of such studies. The high rate of rejection (85-99%) of papers submitted from low- and middle-income countries by journals with international reach has been reported by several authors and is partly explained by the poor quality of these studies and by the low rate of paper submission, but also by the reduced interest in topics specifically related to these countries.[27] One study on mental health research in low and middle income countries showed that 25% of the countries in Latin America and the Caribbean had no publications in the field of mental health indexed in Medline and PsycINFO in a period of 10 years.[26] One of the limitations of this review was the non-inclusion of other important databases in our search for articles, like PsycINFO for example. It is possible that a part of the studies that were not identified in this review is in non-indexed sources, regional journals, and "grey literature".[28,29]

The third hypothesis refers to the low scientific production of most countries and the concentration of research in less than one-third of the countries in Latin America and the Caribbean, especially Brazil, Mexico, and Chile. This result may be due, in part, to the lack of human, financial, and infrastructure resources for scientific research in most Latin American countries.[25,26] In this review, the representativeness of Latin American countries was still lower in regard to culture-bound syndromes, with publications concentrated in Brazil and Mexico. This is not unexpected, since these are the two most productive countries in terms of mental health research in Latin America and the Caribbean;[26] however, studies from other other scientific leading countries in Latin America, such as Argentina, Colombia, and Venezuela, were not identified. Although the Cuban Glossary of Psychiatry was a Cuban initiative from the 1970s and 1980s, no articles from Cuba were identified in this review.

A fourth hypothesis concerning the scarcity of studies in the area is connected to the exclusion criteria adopted in this review. All those studies involving immigrants or related to the phenomenon of acculturation were excluded, and most of them were carried out in the United States with samples of Latino immigrants and their descendants. The interest in the conduction of such studies in the United States can be explained by the growing number of Latin Americans immigrating to this country and by their tendency to become a predominant group within the North American population.[30] Our decision to exclude these studies from the review was based on the fact that immigration has particular characteristics and effects and that immigrant populations might be different from the populations in their countries of origin.

In addition to the paucity of studies on culture-bound syndromes, the majority of the publications on this topic selected in this review were mostly ethnographic studies, case report studies or review of the literature on concepts of culture-bound syndromes.

Even fewer were comorbidity studies exploring the relationship between culture-bound syndromes and mental disorders. There is evidence suggesting that susto *and* ataque de nervios *constitute diagnostic categories distinct[31] from anxiety and depressive disorders, while others state that the symptoms of* susto *are cultural variations of panic attack symptoms.[6] Among the most studied psychiatric conditions, there was a predominance of studies related to depressive disorders in the three databases, with a prevalence of eating disorders in Medline, anxiety disorders in EMBASE and LILACS, and psychotic disorders in LILACS. This predominance is probably the result of evidence showing a strong correlation between cultural elements and the disorders mentioned. In summary, the lack of standardized descriptors across the different databases may have reduced the actual number of articles concerning culture-bound syndromes in Latin America and the Caribbean. Despite this limitation, we can conclude that the scientific production in this field is scarce, irregular, and of little visibility and difficult access. There is no clear evidence in the articles examined in this review to suggest which changes are to be made in current diagnostic classifications. These findings must be considered with caution due to their preliminary nature and to the fact that they do not include data from other indexed databases and handsearch.*

Besides the characterization and description of symptoms of culture-bound syndromes, it is important to explore their relationship with mental disorders and their influence in the course

of illnesses, in the search for treatment, and in their epidemiological profiles. This has implication not only for the revision of diagnostic classifications but also for planning community mental health care and for the effectiveness of therapeutic intervention according to cultural context.

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** Modest*
*** Significant*
**** Significant: Amounts given to the author's institution or to a colleague for research in which the author has participation, not directly to the author.*
Note: UNIFESP = Universidade Federal de São Paulo; FAPESP = Fundação de Amparo à Pesquisa do Estado de São Paulo; CNPq = Conselho Nacional de Desenvolvimento Científico e Tecnológico; CAPES = Coordenação de Aperfeiçoamento de Pessoal de Nível Superior. For more information, see Instructions for Authors.

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Appendix

Strategies used (Medline/PubMed)

1) Focused on diagnosis

("Mental Disorders" OR "Neurobehavioral Manifestations/classification"[Mesh] OR "Substance-Related Disorders" OR "Sleep Disorders" OR "Diagnosis, Dual (Psychiatry)" OR "Psychophysiologic Disorders/classification"[Mesh] OR "Psychophysiologic Disorders/diagnosis"[Mesh]" OR "Suicide" OR "Psychiatric Status Rating Scales"[Mesh] OR "Psychopathology/classification"[Mesh] OR "Psychopathology/diagnosis"[Mesh])

AND

("Classification" OR "International Classification of Diseases" OR "Diagnostic and Statistical Manual of Mental Disorders"[Mesh] OR "Diagnosis"[Mesh])

AND

("Latin America" OR "Caribbean Region" OR "South America" OR "Central America" OR "Mexico")

2) Focused on transcultural studies

("Mental Disorders" OR "Neurobehavioral Manifestations" OR "Substance-Related Disorders" OR "Sleep Disorders" OR "Diagnosis, Dual (Psychiatry)" OR "Psychophysiological Disorders" OR "Suicide")

AND

("Cross-Cultural Comparison" OR "Cultural Competency" OR "Cultural Diversity" OR "Cultural Characteristics" OR "Transcultural" OR "Culture Bound" OR "Ethnic Groups/ethnology"[Mesh] OR "Mental Disorders/ethnology"[Mesh])*

AND

("Latin America" OR "Caribbean Region" OR "South America" OR "Central America" OR "Mexico")

LILACS

3) Focused on diagnosis and classifications

Mental Disorders" OR "Neurobehavioral Manifestations" OR "Substance-Related Disorders" OR "Sleep Disorders" OR "Diagnosis, Dual (Psychiatry)" OR "Psychophysiological Disorders" OR "Suicide

AND

("CLASSIFICATION" or "international CLASSIFICATION of diseases") or "diagnostic and statistical MANUAL of mental disorders" [Subject descriptor]

EMBASE

4) Centered on diagnosis

(mental disease OR mental health OR Psychopathology)

AND

(Classification OR classification algorithm OR clinical classification OR diagnostic and statistical manual of mental disorders OR disease classification OR international classification of diseases OR psychiatric diagnosis OR psychological rating scale)

AND

exp "South and Central America"/ CARIBBEAN.mp. exp Mexico/

5) Focused on transcultural studies

mental illness.mp. or mental disease/

AND

exp cultural anthropology/ or exp cultural factor/ or exp "ethnic or racial aspects"/

AND

exp "South and Central America"/ CARIBBEAN.mp.

exp Mexico/

List of all studies selected in the three databases

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