

# Somatization in Latin America: a review on the classification of somatoform disorders, functional syndromes, and medically unexplained symptoms

## Somatização na América Latina: uma revisão sobre a classificação de transtornos somatoformes, síndromes funcionais e sintomas sem explicação médica

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### Abstract

**Objective:** medically unexplained symptoms are common and associated with mental illness in various contexts. Previous studies show that Latin American populations are prone to somatization. Given the reformulation of the International Classification of Diseases towards its 11<sup>th</sup> edition the peculiarities of the population from this region of the world shall be taken into consideration. The objective of this study is to provide information on somatization in Latin American populations to help the decision making about medically unexplained symptoms diagnostic categories in the 11<sup>th</sup> edition of the International Classification of Diseases. **Method:** Extensive review of the academic production from 1995 to 2011 on somatization in populations of Latin American origin. **Results:** The analysis of 106 studies included in this review was divided into 15 categories: systematic reviews, conceptual reviews, prevalence, primary care, depression and anxiety, risk factors, violence, organic conditions, relationship with health care, ethnicity, culture-bound syndromes, chronic fatigue syndrome, fibromyalgia, body dysmorphic disorder, and conversion and dissociation. **Conclusion:** The Latin American studies confirm the difficulty in defining medically unexplained symptoms categories. The supposed "somatizing trace" of Latin cultures may be linked more to cultural and linguistic expression than to an ethnic nature, and these peculiarities must be on the agenda for the new classification of these phenomena in the Classification of Diseases-11th edition.

**Descriptors:** Somatoform disorders; Latin America; International Classification of Diseases; Psychopathology; Symptoms

### Resumo

**Objetivo:** Os sintomas sem explicação médica são frequentes e estão associados a sofrimento mental em vários contextos. Estudos prévios apontam que as populações latino-americanas são propensas à somatização. Diante da reformulação da Classificação Internacional de Doenças para sua 11<sup>a</sup> edição, as particularidades dos nativos desta região do mundo devem ser levadas em consideração. O objetivo deste estudo é prover informações sobre somatização na população latino-americana para a tomada de decisões quanto às categorias diagnósticas ligadas a sintomas sem explicação médica na Classificação Internacional de Doenças-11<sup>a</sup> edição. **Método:** Revisão extensa da produção de 1995 a 2011 sobre somatização em populações de origem latino-americana. **Resultados:** A análise dos 106 estudos incluídos nesta revisão foi dividida em 15 categorias: revisões sistemáticas, revisões conceituais, prevalências, atenção primária, depressão e ansiedade, fatores de risco, violência, quadros orgânicos, relacionamento com profissionais e o sistema de saúde, etnia, síndromes ligadas à cultura, síndrome da fadiga crônica, fibromialgia, transtorno dismórfico corporal, e conversão e dissociação. **Conclusão:** Os estudos latino-americanos confirmam a dificuldade na definição categorial de quadros com sintomas sem explicação médica. O suposto "traço somatizador" das culturas latinas pode estar associado mais à expressão cultural e linguística do que a um caráter de natureza étnica, e tais particularidades devem estar na agenda na nova classificação destes fenômenos na Classificação Internacional de Doenças-11<sup>a</sup> edição.

**Descritores:** Transtornos somatoformes; América Latina; Classificação Internacional de Doenças; Psicopatologia; Sintomas

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## Introduction

Medically unexplained symptoms (MUS) are frequent and have been associated with mental distress in several medical settings, especially in primary care and in the general population.<sup>1-5</sup> Chronic somatoform syndromes are stable and severe conditions involving MUS as defined by psychiatry and other medical specialties. These conditions include most somatoform disorders. A group known by the name of functional syndromes is also commonly observed in secondary and tertiary care settings and is associated with high costs and disability.<sup>6,7</sup> Common mental disorders (CMD) feature among their diagnostic criteria certain somatic symptoms with no apparent organic origin, and MUS are frequently observed in association with depression and anxiety, especially in primary care settings.<sup>1-5</sup>

MUS may have distinct presentations: from sets of few self-limited symptoms to chronic presentation patterns.<sup>8,9</sup> In this article, the generic term 'somatization' will be used to refer to the spectrum of nosological entities characterized by the presence of MUS. By doing so, the authors do not ignore the vast conceptual discussion concerning the distinction between a number of theoretical constructs and the ambiguous nature of the term chosen.<sup>10-12</sup> This decision was taken, however, with the purpose of providing one single term to unify the scope of this study in a simple and clear way: somatization becomes the phenomenon – or set of phenomena – used to refer to all previously defined conditions involving unexplained symptoms.

There is evidence that Latin American populations are prone to somatization.<sup>2,4,5,13</sup> The presence of somatization among Latin American individuals does not seem to impede or replace the manifestation of evident symptoms of anxiety and depression,<sup>13,14</sup> and an important international multicenter study has shown an increased tendency to somatization in its two participating South American centers.<sup>2,4</sup> It is also important to examine the evidence describing the presence and characteristics of functional somatic syndromes in South American patients, including fibromyalgia (FM) and chronic fatigue syndrome – all placed by literature alongside somatization phenomena<sup>6,7,15,16</sup> –, and somatoform disorders.

The study of somatization in Latin America (LA) is therefore relevant due to its frequency and specific nature and to the range of clinical conditions associated with somatization among natives from this region of the globe, corresponding to approximately 8.5% of the world population<sup>17</sup> (emigrants excluded). Since the classification of so-called somatoform disorders is highly controversial – to the point that some suggest that this category should be abolished as a whole<sup>8</sup> –, each piece of information is extremely important for the revision of a global classification system for mental disorders, as is the case of the 11<sup>th</sup> revision of the International Classification of Diseases (ICD-11). Such information is also relevant for the new edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM), the psychiatric classification of the United States, a country with remarkable ethnic diversity and where 15% of the population claims to be of Hispanic or Latin origin.<sup>18</sup>

Nonetheless, studies on somatization are scarce in LA. It seems opportune, therefore, to survey the available scientific literature on somatization in this region. The results of such review could provide decision makers with high-quality information concerning the categorization of these disorders within classification systems to be used in psychiatry and in primary care, taking into consideration the international and cross-cultural nature of these diagnostic classifications. This article was designed to provide this information by means of a literature review.

The authors' effort aims to help in the definition of the somatization-related conditions in the ICD-11 in order to achieve the best representativeness of Latin American populations

## Method

We made an extensive review of the scientific literature in English, Spanish, and Portuguese concerning somatization. However, some fundamental phrases related to these phenomena (including 'medically unexplained symptoms') are not listed in the Medical Subject Headings (MeSH) or in the Health Sciences Descriptors (DeCS [in the Portuguese/Spanish acronym]). Thus, a combination of search strategies using established descriptors/headings and other search terms was required, and the following were used:

- MeSH/DeCS terms: somatoform disorders, body dysmorphic disorders (BDD), conversion disorder, hypochondriasis, neurasthenia, fibromyalgia, and fatigue syndrome, chronic.
- Other relevant terms: functional somatic syndromes or functional syndromes, somatization, and unexplained symptoms or medically unexplained symptoms.

Searches were performed in the electronic databases Medline, LILACS, and SciELO. Given that a considerable amount of Latin American scientific literature is restricted to academic theses and dissertations, searches were also performed in the major databases for this type of material in LA: CAPES' Repository of Theses (Brazil), Brazilian Digital Library of Theses and the repositories of theses and dissertations of two Mexican universities.

The titles and abstracts (when available) of the studies found were read and references fulfilling the following criteria were included in the review: (1) relevance for the psychopathology, classification, diagnosis and/or evolution of somatization and medically unexplained phenomena; (2) inclusion of samples or populations from LA; and (3) publication between 1995 and 2011.

After the retrieval of references according to the inclusion criteria above, articles and other academic literature in the following categories were excluded: (1) clinical assessment studies; (2) general reviews (systematic and critical conceptual reviews were maintained); (3) studies centered exclusively on psychodynamic mechanisms (unrelated to classification); (4) case reports without critical discussion; (5) studies involving children and adolescents; (6) investigations on assessment instruments and treatment interventions, except when related to topics in psychopathology and prevalence; (7) cost studies; and (8) publications without at least one abstract describing results in a satisfactory way.

## Results

The review of publications concerning medically unexplained complaints and somatoform disorders from LA or including Latin American populations revealed specificities of these conditions in the region and also aspects regarding the comprehension of these phenomena and the position of Latin American researchers in relation to existing controversies involving diagnostic classifications. Due to the geographic focus of this review, the resulting set of studies was quite heterogeneous. In order to facilitate the analysis, the selected scientific production (106 items) was divided into categories whose results are described below and summarized in Table 1.

## 1. Systematic reviews<sup>19-23</sup>

The selected systematic reviews highlight one major difficulty involved in the study of somatization: the existence of different definitions for concepts related to somatization within the criteria and categorization of these clinical conditions.<sup>19,21</sup> The substantial contradictions and different definitions, together with the lack of uniform views concerning the meaning of somatization and related disorders, are a central issue in studies on these topics. There are also other crucial problems in the discussion about somatization and related clinical conditions in Latin American populations, including the strong interference of

**Table 1 – Publications included in the systematic review on medically unexplained symptoms and somatization in Latin America**

Type of study	Publications
<b>Systematic reviews</b>	Coelho & Ávila, 2007 <sup>19</sup> ; Escobar, 1995 <sup>20</sup> ; Guedes et al., 2008 <sup>*21</sup> ; Tamayo et al., 2007 <sup>22</sup> ; Tamayo et al., 2005 <sup>*23</sup>
<b>Conceptual reviews</b> (includes studies on earlier classifications and case reports)	Bombana et al., 1997 <sup>24</sup> ; Bombana, 2000 <sup>25</sup> ; Bombana, 2006 <sup>26</sup> ; Busnello et al., 1999 <sup>27</sup> ; Espírito Santo et al., 2004 <sup>*28</sup> ; Florenzano et al., 2002 <sup>29</sup> ; Fonseca et al., 2008 <sup>30</sup> ; Lizardi et al., 2009 <sup>*31</sup> ; Quintana et al., 2007 <sup>32</sup> ; Ruiz, 1998 <sup>33</sup> ; Zorzanelli, 2010 <sup>*34</sup>
<b>Studies on the prevalence of somatization at different levels of assistance and in the community</b>	Almeida-Filho et al., 1997 <sup>35</sup> ; Andrade et al., 2002 <sup>36</sup> ; Banegas et al., 2003 <sup>37</sup> ; Canino et al., 1997 <sup>*38</sup> ; Cherry & Rost, 2009 <sup>39</sup> ; Costa et al., 2007 <sup>40</sup> ; Coutinho et al., 1999 <sup>41</sup> ; Gonçalves & Kapczinski, 2008a <sup>42</sup> ; Martins, 2007 <sup>43</sup> ; Rondon, 1995 <sup>*44</sup> ; Tófoli, 2004 <sup>45</sup>
<b>Epidemiological studies on mental health in primary care</b>	Florenzano et al., 1997 <sup>46</sup> ; Fortes, 2004 <sup>*47</sup> ; Fortes et al., 2008 <sup>*48</sup> ; Gonçalves & Kapczinski, 2008b <sup>49</sup> ; Morales, 2009 <sup>50</sup> ; Ramirez, 2009 <sup>51</sup> ; Schade et al., 2010 <sup>52</sup> ; Villano, 1998 <sup>53</sup>
<b>Studies on the association between depression and anxiety</b>	Betancur et al., 2008 <sup>*54</sup> ; Castilla-Puentes et al., 2008 <sup>*55</sup> ; Escobar et al., 2010 <sup>*56</sup> ; Fortes, 2004 <sup>*47</sup> ; Fortes et al., 2008 <sup>*48</sup> ; Gonzalez et al., 2009 <sup>57</sup> ; Taborda, 1996 <sup>58</sup> ; Tamayo et al., 2005 <sup>*23</sup>
<b>Studies on risk factors</b>	Andrade et al., 2009 <sup>60</sup> ; Bezerra, 2002 <sup>61</sup> ; Illanes et al., 2002 <sup>59</sup> ; Silva & Queiroz, 2006 <sup>*62</sup> ; Vera et al., 2006 <sup>63</sup> ; Castillo, 1995 <sup>64</sup>
<b>Studies on the association with violence</b>	Almeida, 2001 <sup>*66</sup> ; Almeida, 2008 <sup>*67</sup> ; Barthauer & Leventhal, 1990 <sup>68</sup> ; Castro et al., 2005 <sup>*69</sup> ; Florenzano et al., 2002 <sup>70</sup> ; Florenzano et al., 2002 <sup>71</sup> ; Hazen et al., 2008 <sup>72</sup> ; Ulibarri et al., 2009 <sup>73</sup> ; Weil et al., 2004 <sup>74</sup>
<b>Studies on the association between mental disorders and organic conditions</b>	Almeida, 2001 <sup>*66</sup> ; Almeida, 2008 <sup>*67</sup> ; Andrade et al., 2010 <sup>65</sup> ; Castilla-Puentes et al., 2008 <sup>*55</sup> ; Fráguas et al., 2009 <sup>75</sup> ; Fullerton et al., 2000 <sup>76</sup> ; Rondon, 1995 <sup>*44</sup>
<b>Studies on the relationship with health care providers</b>	Betancur et al., 2008 <sup>*54</sup> ; Gonçalves et al., 2011 <sup>77</sup> ; Guedes et al., 2008 <sup>*21</sup> ; Souza, 1998 <sup>78</sup> ; Silva & Queiroz, 2006 <sup>*62</sup>
<b>Studies on the impact of Latin “ethnicity” on somatization</b>	Bzostek et al., 2007 <sup>79</sup> ; Canino et al., 1997 <sup>*38</sup> ; Diefenbach et al., 2004 <sup>80</sup> ; Escobar et al., 2010 <sup>*56</sup> ; Hulme, 1996 <sup>*81</sup> ; Interian et al., 2006 <sup>82</sup> ; Keough et al., 2009 <sup>*83</sup> ; Lizardi et al., 2009 <sup>*31</sup> ; Oltjenbruns, 1998 <sup>84</sup> ; Villaseñor & Waitzkin, 1999 <sup>85</sup> ; Weller et al., 2002 <sup>*86</sup> ; Zhang & Snowden, 1999 <sup>87</sup>
<b>Studies on cultural culture-bound issues and syndromes</b>	Bayles & Katerndahl, 2009 <sup>88</sup> ; Castro & Eroza, 1998 <sup>89</sup> ; Hinton et al., 2008 <sup>90</sup> ; Hulme, 1996 <sup>*81</sup> ; Interian et al., 2005 <sup>91</sup> ; Keough et al., 2009 <sup>*83</sup> ; Lizardi et al., 2009 <sup>*31</sup> ; Oths, 1999 <sup>92</sup> ; Pedersen et al., 2010 <sup>93</sup> ; Piñeros et al., 1998 <sup>94</sup> ; Weller et al., 2002 <sup>*86</sup>
<b>Chronic fatigue syndrome</b>	Cho et al., 2008 <sup>a95</sup> ; Cho et al., 2008b <sup>96</sup> ; Cho et al., 2009 <sup>97</sup> ; Clark, 2001 <sup>*98</sup> ; Torres-Harding et al., 2008 <sup>99</sup> ; Zorzanelli, 2010 <sup>*34</sup>
<b>Fibromyalgia</b>	Assumpção et al., 2009 <sup>101</sup> ; Camacho, 1999 <sup>102</sup> ; Castro et al., 2005 <sup>*68</sup> ; Clark, 2001 <sup>*98</sup> ; Couto et al., 2008 <sup>103</sup> ; Ferreira, 1998 <sup>112</sup> ; Helfenstein & Feldman, 2002 <sup>104</sup> ; Hernández, 1997 <sup>105</sup> ; Leitão, 2009 <sup>106</sup> ; Marques et al., 2001 <sup>107</sup> ; Martinez et al., 1995 <sup>108</sup> ; Martinez et al., 2001 <sup>109</sup> ; Martinez et al., 2003 <sup>110</sup> ; Pagano et al., 2004 <sup>111</sup> ; Vidal et al., 1997 <sup>113</sup> ; Yoshikawa et al., 2010 <sup>115</sup>
<b>Body dysmorphic disorder</b>	Assunção et al., 2009 <sup>116</sup> ; Calderón et al., 2009 <sup>117</sup> ; Conrado, 2008 <sup>118</sup> ; Conrado et al., 2010 <sup>119</sup> ; Fontenelle et al., 2006 <sup>120</sup> ; Mathis et al., 2008 <sup>121</sup> ; Nakata et al., 2007 <sup>122</sup>
<b>Conversion and dissociation</b>	Espírito Santo et al., 2004 <sup>*28</sup> ; Espírito Santo & Pio-Abreu, 2007 <sup>123</sup> ; Varela et al., 1996 <sup>124</sup>

References marked with an asterisk (\*) belong to more than one category.



*cultural aspects in the presentation of dissociative and somatoform disorders<sup>20</sup> and the strong association between somatic complaints and depression.<sup>22</sup>*

## **2. Conceptual reviews<sup>24-34</sup>**

*Among the studies selected, some were specifically designed to deal with the central question of conceptual difficulties. Florenzano et al., in their review on these conditions, raised some relevant questions: association with anxiety and depression and with histories of violence, abuse, and psychosocial distress.<sup>29</sup> Fonseca et al. also dealt with the relationship between unexplained somatic complaints and emotional distress, CMD, and psychosocial problems, highlighting the lack of adequate treatment for these patients and the need for professionals to create spaces of care.<sup>30</sup> The gray area between the physical and psychological domains where these conditions lie and the difficulty to properly plan care strategies in this boundary have also been examined by Zorzanelli in a discussion of the relationship between the concepts of chronic fatigue and neurasthenia,<sup>34</sup> and by Bombana, in his investigation on the interactions between somatoform disorders and functional syndromes.<sup>26</sup>*

*Some of these mostly conceptual works rely on case reports to raise questions and to indicate the critical points of concepts related to somatization. Ruiz emphasized the role of cultural elements in the genesis and treatment of mental disorders, in addition to the importance of somatic complaints in the presentation of such disorders in the Latin cultures.<sup>33</sup> Lizardi et al., based on a clinical case in Colombia, deepened the conceptual discussion regarding the influence of culture in the manifestation of mental distress, which may emerge as culture-bound syndromes (CBS) when, in fact, they refer to existing nosological categories, demonstrating the need for cultural manifestations to be understood within the cultural setting in which they appear.<sup>31</sup> Other articles also found support from case reports to discuss the difficulties in the approach, diagnosis, and care of patients lying in the frontier between the somatic and psychological realms.<sup>25,28</sup> However, Bombana referred to the existence of severe conditions located in one extreme of this continuum that required treatment at a specialized outpatient unit in Brazil.<sup>25,26</sup>*

*Another approach investigators used to study somatization patients involves the analysis of the available diagnostic classifications. All such studies were performed in Brazil. One of them assessed patients diagnosed with neurovegetative dystonia (NVD), a category in the ICD-9, and showed that when Brazilian general practitioners diagnosed cases with this generic syndrome they were dealing in fact with diverse psychiatric illnesses.<sup>24</sup> Studies using current psychiatric classifications of somatization confirmed the difficulties involving these diagnoses, concerning both the inter-rater reliability and the suitability of assessment instruments, whose sensitivity to detect somatoform disorders is low.<sup>27,32</sup>*

## **3. Prevalence studies<sup>35-45</sup>**

*An investigation on the prevalence of mental disorders in households in São Paulo, Brazil, using the Composite International*

*Diagnostic Interview (CIDI), found relatively high prevalence rates for the category of somatoform disorders, particularly somatoform pain disorder, although the most prevalent conditions were anxiety disorders.<sup>36</sup> In a population sample of elderly people living in a small town, somatoform disorders were infrequent, although the risk of symptom misattribution by respondents in this population is higher.<sup>40</sup> The predominance of anxiety and depressive disorders – often presenting through physical symptoms in the community – has been investigated by means of general denominations such as “common mental disorders”. Gonçalves and Kapczinski found a prevalence rate of approximately 38% of such disorders in a Brazilian community sample.<sup>42</sup> In a study investigating the different categorical and dimensional aspects of MUS in a community sample from São Paulo, Brazil, Tófoli found no evidence to justify the use of any categorization, strengthening the conception of somatization as a spectrum with no specific sets of symptoms.<sup>45</sup> In Tegucigalpa, Mexico, the prevalence of somatoform disorders measured with the Primary Care Evaluation of Mental Disorders (PRIME-MD) reached 21% (although a small sample of only 100 individuals was included).<sup>37</sup> The high prevalence of somatization in Latin American populations was confirmed by a community survey in Puerto Rico, where somatization prevalence rates were higher than those found in the rest of the United States, with the presence of comorbidity of alcohol misuse and somatization.<sup>39</sup>*

## **4. Epidemiological studies on mental health in primary care settings<sup>46-53</sup>**

*Epidemiological studies performed in primary care units were examined separately in this review because MUS are particularly frequent in this setting. However, these studies approach the issue of mental disorders at this level of care using more sensitive instruments with lower diagnostic specificity. Therefore, the four studies located in this category revealed high prevalence rates of CMD, which are normally characterized by the presence of somatic complaints. The three articles which were published within the time limits of this review provided more details on the presence of somatoform disorders in this clientele – two from Brazil<sup>47,48,53</sup> and one from Chile.<sup>46</sup> Two of these studies were part of a multicenter effort led by the World Health Organization (WHO) and revealed higher prevalence rates of depression and anxiety, a significant incidence of dissociative-conversion disorders, and somatoform pain disorders in these populations, besides a strong association between these conditions and anxiety and depressive disorders.<sup>46,53</sup> It is worth to mention a study that, although centered on treatment, presented the characteristics of primary care somatization patients in Chile,<sup>52</sup> and also two Mexican investigations on the profile of somatization patients at this level of care, which corroborate the characteristics and prevalence rates seen in other Latin American samples.<sup>50,51</sup>*

## **5. Association with depression and anxiety<sup>23,47,48,54-58</sup>**

*The association of MUS with depressive and anxiety disorders has been consistently shown by previous investigations. Betancur et al.*

demonstrated this strong association in Colombia,<sup>54</sup> whereas the group led by Escobar reported that MUS can predict the occurrence of depressive and anxiety disorders in Latin populations living in the United States.<sup>56</sup> In Mexico, the severity of somatic symptoms was associated with the presence of depression and anxiety.<sup>57</sup> The same connection was demonstrated by a study on the link between somatic complaints and depression in Puerto Rico.<sup>59</sup> A multicenter study conducted in Latin American emergency departments revealed an independent association of depression with complaints of chronic fatigue and back pain, which are commonly linked to functional syndromes.<sup>55</sup>

### 6. Studies on risk factors<sup>59-64</sup>

Another important line of investigation seeks to understand risk factors for mental disorders associated with somatization and for somatization itself. A study performed in Northeast Brazil indicated that risk factors for depression and anxiety include being female, age between 40 and 65 years, and occupation with household chores.<sup>60</sup> Another investigation on minor psychiatric morbidity involving samples from three large Brazilian cities also described the fact of being female as a risk factor.<sup>41</sup> Somatization was further associated with organic illnesses in a population study in São Paulo,<sup>65</sup> with certain professional activities – such as being a fisherman in the Brazilian Amazon<sup>61</sup> –, and with psychosocial factors like education and income in Temuco, a medium-size city in Chile.<sup>59</sup> Qualitative studies as the one performed by Silva and Queiroz<sup>62</sup> have shown a relationship between physical complaints, migration, and economic and social problems in Southeast Brazil. One study involving Chilean miners confirmed the association of physical symptoms with psychosocial factors and dissatisfaction with work.<sup>63</sup> In summary, these conditions are more frequent among women, those with low income and education and those who have occupational difficulties or work as housewives. These complaints often require a differential diagnosis from chronic conditions, such as cardiovascular and respiratory pathologies, with which they are associated, complicating the delivery of adequate care.

### 7. Association with violence<sup>66-74</sup>

One important risk factor associated with the presence of MUS was violence. Violence was related to the occurrence of CMD, especially depression,<sup>66,67,72-74</sup> post-traumatic stress disorder,<sup>74</sup> MUS,<sup>66,67,72-74</sup> fibromyalgia,<sup>69</sup> and emotionally unstable (borderline) personality disorder.<sup>70,71</sup> This association has been found in respect to the occurrence of many types of violence – physical, psychological, and sexual abuse and other traumatic events in the community such as those posed by situations of war – and in a number of countries like Brazil, Chile, El Salvador, Guatemala, Mexico, and the United States. Violent acts are usually perpetrated by close relatives during childhood and by partners later in life. It is important to mention a Mexican study that found a limited capacity of social support to

reduce the impact of violence manifested through depression and somatization.<sup>73</sup>

### 8. Association between mental disorders and organic conditions<sup>65-67,75,76</sup>

An association of unexplained somatic complaints and somatoform disorders with organic diseases has also been demonstrated. Fráguas et al., investigating a group of patients with non-cardiac chest pain in a quaternary care unit in São Paulo showed that depression was the most common diagnosis, but somatization was also detected – although the sample was excessively small (18 patients).<sup>75</sup> Two studies conducted by Almeida in two general outpatient units specialized in pain in Rio de Janeiro, Brazil, found high rates of somatization.<sup>66,67</sup> Fullerton and collaborators found that 66% of patients with organic diseases from a primary care unit in Chile had associated mental disorders, 25% of which were somatoform disorders.<sup>76</sup> An investigation in a cardiology outpatient unit in the Central West region of Brazil observed that the prevalence of somatoform disorders varies widely according to diagnostic criteria and cut-off points of symptoms scales.<sup>44</sup>

### 9. Relationship with health care providers<sup>21,54,62,77,78</sup>

In a systematic review on vague and diffuse symptoms, Guedes et al. discussed the difficulties posed to physicians to diagnose these conditions and to use efficient therapeutic resources in their management.<sup>21</sup> Two qualitative studies from Brazil revealed the differences existing between the views of somatization patients and their physicians.<sup>62,78</sup> Also, two investigations showed the difficulties of medical professionals to identify physical symptoms: family physicians in Brazil had low detection rates of MUS,<sup>77</sup> and psychiatrists from Puerto Rico had difficulties identifying physical complaints in depressed patients.<sup>23</sup>

### 10. Impact of Latin “ethnicity” on somatization<sup>31,38,56,79-87</sup>

Evidence shows that Latin Americans are more prone to somatization. A higher prevalence of somatization and a lower incidence of alcohol use were found in Puerto Rico;<sup>38</sup> an association between anxiety, nervios, and somatic symptoms in the elderly was also reported in Puerto Rico,<sup>62</sup> and higher scores in somatization scales were observed in association with mourning in a Hispanic population in the United States.<sup>84</sup> Hulme states, after highlighting that the form and contents of mental disorders are mediated by culture and that the expression of psychosocial distress is largely shaped by cultural values and beliefs, that Hispanics are more prone to somatization than Anglos when affected by psychosocial disorders and distress.<sup>81</sup> It is important to note that comparative studies in the United States failed to find the same results, such as the study that showed that Hispanics presented no differences in somatization measures compared to “non-Hispanic white individuals”.<sup>87</sup> Additionally, one study questioned the importance of the purported somatization trait in Latin Americans, suggesting that language and socio-economic status are much more important

mediators of the differences found in North-American investigations.<sup>79</sup> Villaseñor and Waitzkin demonstrated, based on an in-depth analysis of Latin American patients diagnosed with somatization according to the CIDI, that this diagnostic tool may misinterpret conditions associated with Latin American cultural expressions and financial problems as psychiatric conditions.<sup>85</sup> In the same line, an investigation of the 15-item Patient Health Questionnaire (PHQ-15) showed that the instrument behaves differently in relation to Latin and non-Latin respondents.<sup>82</sup>

### 11. Cultural factors and culture-bound syndromes<sup>31,81,83,86,88-94</sup>

The literature regarding CBS in LA describes a set of conditions that overlap with somatization phenomena in this region.<sup>91</sup> For instance, 42% of Hispanic patients attending primary care units in Texas, United States, reported having had at least one of five CBS (*susto*, *empacho*, *nervios*, *mal de ojo*, and *ataques de nervios*).<sup>88</sup> These alleged syndromes may be understood according to two (non-mutually excluding) views: the first one, of a mostly psychosocial nature, proposes that these syndromes consist of ways of elaborating daily distress and the patients' values;<sup>31,89,93</sup> and the second one views CBS as the translation of classic psychiatric diagnoses such as anxiety and panic through a cultural filter.<sup>83,90,91</sup> There is evidence showing that dissociative and conversion episodes may be culturally accepted forms to manifest psychological distress.<sup>94</sup> Furthermore, the presentation of CBS in LA might be quite elusive. *Susto*, for example, has different qualitative descriptions according to the region studied.<sup>86</sup> There are also results showing that the syndrome called *nervios* can be differentiated from panic attacks and is not exclusive to Latin cultures.<sup>83</sup>

Studies on specific clinical conditions associated with somatoform disorders and the presence of MUS have also been included in this review, and the following deserve to be highlighted.

### 12. Chronic fatigue syndrome (CFS)<sup>34,95-99</sup>

Studies on CFS in Brazil and in the United Kingdom provided interesting insights concerning the impact of cultural factors in the presence of CFS. Cho et al. reported that, although the prevalence of CFS is similar (and low) in Brazilian and British samples of primary care patients,<sup>97</sup> the pattern of CFS detection and recognition by physicians and patients is different, and that CFS detection rates are lower in Brazil.<sup>96</sup> Moreover, patients from these two countries differed in relation to the causes attributed to their symptoms, and the English showed restrictions in considering the possibility of an emotional origin for their problems.<sup>95</sup> In a study in the United States, the cultural differences resulting from acculturation after immigration are also reflected in the higher frequency of CFS found in English-speaking immigrants compared to Spanish-speaking ones.<sup>99</sup> This different pattern in the presentation and comprehension of the origin of MUS associated with chronic fatigue in Brazil and in the Latin

American population may be related to differences in the behavior of these populations in the context of disease. It is also worth to mention the existence of two articles from Brazil<sup>84</sup> and Chile<sup>100</sup> discussing the very definition of CFS, its historical origin and relationship with the old definition of neurasthenia. The strong impact of culture in the presentation and detection of CFS feeds questions concerning the origin and identity of unexplained somatic complaints - especially fatigue - and their adequate classification.

### 13. Fibromyalgia (FM)<sup>68,98,101-112</sup>

The studies on FM included in the review had rather similar results, divided along three lines of investigation: epidemiological studies, studies concerning associated factors, and studies on the disease's burden for patients. The epidemiological studies found a prevalence of 4.4% of fibromyalgia in primary care patients,<sup>101</sup> and that Brazilian females with FM do not differ from those in other countries.<sup>110</sup> In respect to associated factors, FM was shown to be related with distress in Colombia<sup>102</sup> and with abuse in Guatemala.<sup>68</sup> As for mental disorders, FM was mainly associated with anxiety,<sup>111</sup> but was also linked to depression, in connection with which greater functional impairment was observed.<sup>68,103,104,113</sup> FM was associated with the presence of other functional syndromes in two studies from Guatemala,<sup>68,105</sup> and was found to have an important impact on quality of life in Brazil,<sup>107,109,111</sup> while results from Colombia showed that FM-related pain has an important psychological component.<sup>114</sup> A study involving Brazilian men revealed that FM has a stronger impact on quality of life than depression, affecting both physical and mental health.<sup>115</sup>

### 14. Body dysmorphic disorder (BDD)<sup>116-122</sup>

Latin American studies on BDD were divided into two main research avenues: the insertion of BDD in the spectrum of obsessive-compulsive disorder (OCD) and the assessment of prevalence rates in patients with skin diseases. In respect to the latter, two reports from Brazil and one from Chile found considerable prevalence rates, similar to those found in Anglo-Saxon and European investigations.<sup>117-119</sup> The scientific production derived from the first line of investigation - exclusively from Brazil - reinforced the association between BDD and OCD.<sup>116,120-122</sup> It can therefore be stated that, from the standpoint of Latin American researchers, BDD is better classified within the spectrum of OCD than in the category of somatoform disorders.

### 15. Conversion and dissociative disorders<sup>28,123,124</sup>

Few studies dealing specifically with conversion and dissociative disorders fulfilled the inclusion criteria of this review. Two of such investigations concerned the clinical characteristics involved in the classification of these conditions.<sup>28,124</sup> The study by Espírito Santo et al. examined the association between conversion and dissociation through the analysis of fundamental psychopathological mechanisms, questioning the separation between the two phenomena in nosological



classifications.<sup>123</sup> Using a phenomenological line of investigation, Varella assessed the presence of the symptom of *belle indifférence* in dissociation, concluding that it is present in only a small percentage (20%) of cases.<sup>124</sup>

## Discussion

It is important to mention that there were many review articles on somatization that were not included in our analysis. Most of them dealt mainly with the description of somatization disorders and with treatment issues. Although these articles do not further the discussion about somatization in LA, they are important tools to promote awareness about somatization and may disseminate the view that these conditions – especially somatoform disorders and functional syndromes – must be detected and treated. Another important issue found in scientific articles related to somatization, whether or not included in this review, refers to classification difficulties. Studies often mention problems in delimitating somatization phenomena, the inadequacy of diagnostic classifications, and obstacles for the understanding and management of patients with somatization-related conditions within the traditional framework used to comprehend health and disease processes. Below, we examine some aspects related to these issues that were found in the articles reviewed.

MUS are frequent in the Latin population and are associated with anxiety and depressive syndromes. In general, studies show a higher prevalence of such complaints in Latin American populations as compared to others. There is a remarkable difficulty to accurately place MUS within specific nosological descriptions, with the possibility that more than one associated clinical condition is detected. This is also true in respect to functional syndromes, whose association with anxiety and depression is frequent, as well as to a number of symptoms and subtypes of syndromes.

MUS are usually associated with social factors and psychosocial distress related to poverty, low education, working conditions, and especially with the presence of diverse forms of violence.

MUS may be regarded as culture-bound forms of presentation of emotional distress, consisting of accepted patterns that are genuine idioms of distress peculiar to this given culture and population. This view is supported by studies on CBS, which are organized in several types and subgroups but cannot be located as either fully inside or outside the traditional classifications. In fact, current evidence indicates that CBS consist of cultural patterns for the communication of general and diffuse emotional distress that lies beyond specific classification. Furthermore, it has been shown that somatization presents as a general trait in the Brazilian population, with no specific groups of symptoms.<sup>45</sup>

Culturally-determined forms of expressing, understanding, recognizing, and diagnosing emotional distress are especially well characterized in studies on chronic fatigue comparing Brazilian and British populations.<sup>95-97</sup> Although similar in frequency, fatigue complaints are differentially understood in the two cultures

by both patients and health care professionals, resulting in rather different treatment patterns.

In respect to BDD, our review shows that Brazilian researchers understand these conditions as pathologies of the obsessive-compulsive spectrum, and do not associate them with somatoform disorders.

This review has some limitations. The PsycINFO and EMBASE databases were not included in the searches; however, the review included the most used and consulted databases in LA. Another limitation refers to the categorization of selected articles, which was complex and led to the inclusion of some articles in more than one category, reflecting difficulties that are intrinsic to research in this field, where publications are more generic and descriptive. Even so, we opted to include a broader literature to expand the possible views about somatization-related phenomena as perceived by Latin American authors.

## Conclusion

The understanding and classification of this sophisticated process encompassing mind and body through which human suffering manifests is a task that remains to be completed so that the best alternatives of care can be implemented.

This review offers contributions for the current process of revision of diagnostic classification systems. Therefore, we conclude by listing some reflections aimed to contribute for the discussions that will provide the bases for the section on mental and behavioral disorders of the ICD-11:

1) The high prevalence of somatization in LA may reveal cultural, linguistic, and attribution differences implying that great care should be taken in the cross-cultural validation of diagnostic and research instruments. Study designs as the one used by Villaseñor and Waitzkin can be employed to assess the validity of somatization categories as defined by standardized instruments and scale cut-off points.<sup>85</sup>

2) There is no evidence to justify the inclusion of Latin American CBS – plentiful in terms of MUS – as distinct diagnostic categories. These syndromes seem to consist of culturally-sanctioned idioms of distress that can be used both in the presence of several psychiatric categories, as well as to express psychological distress not associated with diagnoses of mental disorders.

3) Latin American data related to somatization suggest that psychosocial factors are associated with different categories of MUS. The new international classification of mental disorders must consider the impact of these elements and incorporate them in the classification. There is not enough evidence from LA to decide whether the best option is the adoption an axial structure as in the DSM, the addition of numeric characters in the ICD-11 codes, or the use of codes for factors influencing health status and contact with health services as outlined in chapter 21 (Z00 to Z99) of the ICD-10.

4) Proposed diagnostic criteria for somatization syndromes based solely in the counting of the number of symptoms shall be assessed with rigorous scrutiny. The tendency of Latin American individuals to report more MUS may affect the reliability of this type of categorization.

#### Disclosures

Writing group member	Employment	Research grant <sup>1</sup>	Other research grant or medical continuous education <sup>2</sup>	Speaker's honoraria	Ownership interest	Consultant/ Advisory board	Other <sup>3</sup>
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Laura Helena Andrade	IPq-HC-FMUSP	-	-	-	-	-	-
Sandra Fortes	UERJ	-	-	-	-	-	-

\* 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: UFC = Universidade Federal do Ceará; IPq-HC-FMUSP = Instituto de Psiquiatria do Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo; UERJ = Universidade do Estado do Rio de Janeiro.

For more information, see Instructions for Authors.

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