Is all we know that we know nothing? A critical review of the prevalence of somatoform disorders in the elderly

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Received 3 June 2013; revised 2 July 2013; accepted 10 July 2013

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ABSTRACT

Objective: As noted in previous reviews, the prevalence rates for somatoform disorders in the elderly that have been reported are highly heterogeneous. The main aim of this paper is to identify the reasons for the substantial variation in prevalence rates and discuss the potential of future diagnostic criteria to address current difficulties. Methods: We conducted a selective review of the literature on the prevalence of somatoform disorders in elderly populations. Results: We found significant conceptual differences between the described diagnostic groups and the criteria applied across studies. Moreover, substantial disparities related to sample selection, age cut-offs, and applied measures were revealed. Conclusions: A general conceptual confusion exists throughout the literature regarding somatoform disorders in the elderly that significantly hinder the comparison and integration of results and can lead to premature conclusions. The redefinition of the somatoform disorder category in the next version of the DSM should be taken as an opportunity to address this issue and facilitate research.

Keywords: Somatoform Disorders; Epidemiology; Diagnostics; DSM-V; Geriatrics

1. INTRODUCTION

Although somatoform disorders are considered to be one of the most common mental disorders in primary care settings [1], they are the focus of substantially less empirical research than affective or anxiety disorders [2]. This divergence between clinical impressions and research findings has stimulated continuous debates about the basic assumptions surrounding the interplay of mind and body, etiological models, diagnostics and treatment modalities. Due to demographic changes, this discussion also needs to integrate the special characteristics with requirements of elderly patients. Currently, however, little is known about the relation between age and somatoform disorders. Important population based studies that have investigated the prevalence of mental disorders define the age of 65 years as a cutoff and thereby exclude the elderly population [3-6] or somatoform disorders are excluded a priori in studies exploring mental disorders in the elderly [7]. Some attention has already been paid to the neglect of somatoform disorders by geriatric psychiatry [8], yet the reviews dealing with this issue all come to similar conclusions: empirical data are scarce, and results are highly heterogeneous, as 12 month prevalence rates vary from 0.0% to 30.1% [9-11].

At the same time, the neglect of somatoform disorders in epidemiological studies is not specific to elderly populations [12]. One main reason for this omission is the lack of suitable diagnostic criteria that allow for valid assessments and evaluations of somatoform disorders [13]. The phenomenon of patients reporting somatic symptoms that are not well explained by general medical conditions has been difficult to name and conceptualize, and diagnostic classification of somatoform disorders is thus a challenging task [14]. The basic principle being the assessment of somatoform disorders is subject to a rather antiquated mind/body dualism that requires a stringent differentiation between medically unexplained and explained symptoms. This main source of criticism has been addressed in a number of studies [e.g.,15-19], and among others, this criticism has led to the proposal of a drastic reorganization of the somatoform disorder cluster in the next revision of the Diagnostic and Statistical Manual of Mental Disorders [20]. It is our view that the validity of this proposal should also be evaluated and discussed with regard to the increasing number of elderly patients.
To explore reasons for the enduring and dissatisfying state of research concerning prevalence estimates of somatoform disorders in the elderly and to illustrate the possible remedies changes in the diagnostic classifications could produce, we reviewed the research literature surrounding the following two questions:

1) What are the main reasons for the heterogeneous findings regarding prevalence rates of somatoform disorders in the elderly?

2) Can the DSM-V facilitate research and clinical management of somatoform disorders in the elderly?

To facilitate understanding of the difficulties associated with the diagnosis of somatoform disorders, we briefly illustrate the historical development of this controversial group of disorders and describe the current diagnostic criteria.

2. A BRIEF HISTORICAL CONSIDERATION

First described by the Austrian physician and psychoanalyst Wilhelm Stekel in 1922, the phenomenon of somatization has been a fascinating and debate-stimulating field of clinical psychology ever since. The concept was originally termed “Organsprache” by Stekel, which literally means “organ speech”, a vague concept introduced by him to illustrate psychological conflict expressed as physical symptoms [21]. The translator of Stekel’s book used another term, somatization, which would become an ubiquitous label for many different conditions [22]. Originally meant to describe a psychological mechanism, somatization was soon also used to describe the symptoms caused by this mechanism, and this resulted in lasting uncertainty surrounding the whole concept.

In addition to the concept of somatization, another phenomenon, namely hysteria, played a major role in the development of the latter conceptualization of somatoform disorders. In 1859, Pierre Briquet published his comprehensive clinical and epidemiological study of 430 patients suffering from hysteria in which he emphasized the polysymptomatic nature of the disease and its protracted timecourse [23]. In contrast, some years later, Jean-Martin Charcot gave importance to a monosymptomatic manifestation and claimed hysteria was a neurological disorder to which patients were pre-disposed by hereditary features of their nervous system [24]. Inspired by the work of Charcot, Breuer and Freud in 1893 formulated the first psychoanalytic approach to explaining the phenomenon of hysteria. They introduced the term conversion to describe the substitution of a somatic symptom for a repressed idea [25]. The latter formulation of conversion disorder was derived from this concept, whereas the latter formulation of somatization disorder was derived from Briquet’s polysymptomatic hysteria concept and, as such, it was also known for a long time as “Briquet-Syndrome”.

In the first edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM) published by the American Psychiatric Association [26], conversion disorder appeared as “conversion reaction”. In the subsequent version, conversion disorder was clustered with dissociation disorder under the new diagnostic category of “hysterical neurosis” [27]. However, this category was dropped in the next edition of the DSM, which was published in 1980. The emphasis on clinical phenomenology rather than etiology led to a return to Briquet’s elaborate description of a polysymptomatic chronic condition, which was introduced as “somatization disorder” in DSM-III and became the key diagnosis of the “somatoform disorder” group [28]. The category also included “conversion disorder” “hypochondriasis”, “psychogenic pain disorder” and the residual category “atypical somatoform disorder”.

In the latest revision, some minor changes were made such as dropping psychogenic from pain disorder, renaming atypical somatoform disorder as “somatoform disorder not otherwise specified” and adding “body dysmorphic disorder”. Current diagnostic criteria for somatization disorder and pain disorder according to DSM IV are displayed in Table 1. Whenever a patient does not meet all of the specific symptomatic criteria for somatization disorder (i.e., 4 pain, 2 gastrointestinal, 1 sexual, 1 pseudoneurological symptom) but suffers from at least 1 medically unexplained symptom for at least 6 months, he will be diagnosed with “undifferentiated somatoform disorder”. This category was introduced to catch those patients who do not fulfill the criteria for somatization disorder but appear to be clearly ill [29]. This rather cumbersome category turned out to be more prevalent than other primary disorders within the cluster [30,31].

3. PREVALENCE OF SOMATOFORM DISORDERS IN THE ELDERLY—WHY WE SHOULD NOT DRAW HASTY CONCLUSIONS

As mentioned previously, studies investigating somatoform disorders in the elderly are rare, and the reported prevalence rates are highly heterogeneous [9,11]. One reason for this heterogeneity might lie in the controversial conceptualization of this group of disorders. To explore this hypothesis in more detail, we reviewed the literature with an emphasis on the described diagnostic groups and applied criteria. Moreover, we also looked for other factors that may account for the heterogeneity such as sample selection, age cut-offs, and applied measures. We focused our evaluation on studies that have been included in previous literature reviews because these studies are likely of sufficient quality to draw
Table 1. DSM-IV criteria for somatization and pain disorder (29).

I. Somatization disorder
A. A history of many physical complaints beginning before age 30 years that occur over a period of several years and result in treatment being sought or significant impairment of functioning.
B. Each of the following criteria must have been met, with individual symptoms occurring at any time during the course of the disturbance.
1. 4 pain symptoms: a history of pain related to at least 4 different sites or functions
2. 2 gastrointestinal symptoms: a history of at least 2 gastrointestinal symptoms other than pain
3. 1 sexual symptom: a history of at least 1 sexual or reproductive symptom other than pain
4. 1 pseudoneurological symptom: a history of at least 1 symptom or deficit suggesting a neurological condition not limited to pain
C. Either:
   1) After appropriate investigation, each of the symptoms cannot be fully explained by a known general medical condition or the direct effects of a substance
   2) When there is a related general medical condition, the physical complaints or resulting social or occupational impairment are in excess of what would be expected from the history, physical examination, or laboratory findings
D. The symptoms are not intentionally produced or feigned.

II. Pain Disorder
A. Pain in one or more anatomical sites is the predominant focus of the clinical presentation and is of sufficient severity to warrant clinical attention.
B. The pain causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
C. Psychological factors are judged to have an important role in the onset, severity, exacerbation, or maintenance of the pain.
D. The symptom or deficit is not intentionally produced or feigned.
E. The pain is not better accounted for by a mood, anxiety, or psychotic disorder and does not meet criteria for dyspareunia.

This study might therefore be relevant in terms of age relations within clinical samples but does not allow for any assumptions about prevalence.

3) Inconsistent measures
The applied assessment tools differ across the studies and include self-report measures (34,38), semi-structured interviews of assured psychometric properties (40,43,46), newly self-developed interviews (37,39,42) and analyses of electronic routine medical records (47). At least 7 studies used fully structured interviews, and the Composite International Diagnostic Interview (CIDI) was deployed in 5 of the studies (3,35,36,44,48). However, different versions and different time-windows also impede the comparability of results in this case.

4) Heterogeneous diagnostic groups
In addition to all the previously mentioned differences in study populations and measures, significant differences across studies between described diagnostic groups are especially striking. For example, 5 of the studies listed in Table 2 did not use DSM or ICD criteria. Stenback et al. (42) identified “hypochondria or hypochondriac-like concerns” in 13.7% of their sample, Larkin et al. (40) reported a prevalence rate of 0.4% for “hypochondriacal neurosis”, Costa and McCrae (38) could not find any relation between age and “somatic complaints” and Verhaar et al. (47) reported a prevalence of 4.6% for “medically unexplained symptoms” that were defined by the absence of a diagnosis and the frequency of doctor visits (at least 4 contacts) in routine patient records. Hardy et al. (39) reported a prevalence rate of 13% for “medical somatoform disorders” using criteria that were identical to those for undifferentiated somatoform disorder according to the DSM-IV except without consideration of the E-criterion, which necessitates the exclusion

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Table 2. Epidemiological studies of somatization in the elderly considered in previous reviews.

<table>
<thead>
<tr>
<th>Study</th>
<th>N</th>
<th>Age cut off</th>
<th>Criteria measures</th>
<th>Time-window</th>
<th>Described diagnostic group</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General population</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stenback 1978</td>
<td>106</td>
<td>70</td>
<td>semistructured interview</td>
<td>ns</td>
<td>hypochondria/hypochondria like concern</td>
<td>13.7%</td>
</tr>
<tr>
<td>Costa 1980</td>
<td>1038</td>
<td>57</td>
<td>self-report symptom checklist</td>
<td>ns</td>
<td>any somatic complaints</td>
<td>ns¹</td>
</tr>
<tr>
<td>Escobar 1987</td>
<td>3132</td>
<td>45</td>
<td>DIS</td>
<td>lifetime</td>
<td>somatization disorder (DSM III)</td>
<td>0.1%</td>
</tr>
<tr>
<td>Larkin 1992</td>
<td>1070</td>
<td>65</td>
<td>GMS</td>
<td>12 months</td>
<td>hypochondriacal neurosis</td>
<td>0.5%</td>
</tr>
<tr>
<td>Wittchen 1992</td>
<td>188</td>
<td>45</td>
<td>CIDI</td>
<td>6 months</td>
<td>any somatofrom disorder (DSM IV)</td>
<td>1%</td>
</tr>
<tr>
<td>Hardy 1995</td>
<td>504</td>
<td>65</td>
<td>semistructured interview</td>
<td>12 months</td>
<td>medical somatofrom disorder</td>
<td>13%</td>
</tr>
<tr>
<td>Hiller 2006</td>
<td>1312</td>
<td>45</td>
<td>SOMS-2</td>
<td>1 week</td>
<td>current somatization</td>
<td>26.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6 months</td>
<td>multisomatoform disorder</td>
<td>9.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6 months</td>
<td>somatoform disorder not otherwise specified</td>
<td>13.5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6 months</td>
<td>current somatofrom disorder</td>
<td>18.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6 months</td>
<td>severe current somatofrom disorder</td>
<td>4.9%</td>
</tr>
<tr>
<td>Leikens 2007</td>
<td>163</td>
<td>66</td>
<td>CIDI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jacobi 2004</td>
<td>50</td>
<td></td>
<td>CIDI</td>
<td>12 months</td>
<td>any somatofrom disorder (DSM IV)</td>
<td>11.7%</td>
</tr>
<tr>
<td>Fröhlich 2006</td>
<td>4181</td>
<td></td>
<td>CIDI</td>
<td>12 months</td>
<td>somatofrom pain disorder (DSM IV)</td>
<td>8.6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12 months</td>
<td>medically unexplained symptoms</td>
<td>27.2%</td>
</tr>
<tr>
<td><strong>Primary care</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Kirmayer 1996</td>
<td>685</td>
<td></td>
<td>DIS</td>
<td>ns</td>
<td>somatic symptom index</td>
<td>ns¹</td>
</tr>
<tr>
<td>Gureje 1997</td>
<td>5438</td>
<td>45</td>
<td>CIDI</td>
<td>ns</td>
<td>somatization disorder (ICD-10)</td>
<td>ns²</td>
</tr>
<tr>
<td>Lyness 1999</td>
<td>224</td>
<td>60</td>
<td>SCID</td>
<td>point prevalence</td>
<td>somatofrom pain disorder</td>
<td>1.3 %</td>
</tr>
<tr>
<td>Lyness 1999</td>
<td>224</td>
<td>60</td>
<td>SCID</td>
<td>point prevalence</td>
<td>body dysmorphic disorder</td>
<td>0.5%</td>
</tr>
<tr>
<td>De Waal 2004</td>
<td>70</td>
<td>65</td>
<td>SCAN</td>
<td>6 months</td>
<td>somatoform disorders (DSM-IV)</td>
<td>5.4%</td>
</tr>
<tr>
<td>Verhaak 2006</td>
<td>225013</td>
<td></td>
<td>medical records</td>
<td>12 months</td>
<td>medically unexplained symptoms</td>
<td>4.6%</td>
</tr>
<tr>
<td><strong>Clinical populations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pribor 1994</td>
<td>83</td>
<td>55</td>
<td>semistructured interview</td>
<td>ns</td>
<td>any somatofrom disorder</td>
<td>39.9%</td>
</tr>
</tbody>
</table>

Note: ns = not specified, DIS = Diagnostic Interview Schedule; GMS = Geriatric Mental state; SOMS = Screening for Somatoform Symptoms; CIDI = Composite International Diagnostic Interview; SCID = Structured Clinical Interview for DSM-IV disorders; SCAN = Schedules for Clinical Assessment in Neuropsychiatry; ICD = International Classification of Diseases; ¹no relation between symptoms and age; ²slightly increase in symptoms with age.

of any other mental disorder.

Even though they applied the fully structured Composite International Diagnostic Interview (CIDI), Leikens and colleagues [41] did not adhere to the standard diagnostic criteria according to the DSM-IV. They reported prevalence rates for “multisomatoform disorder (MSD)” and “somatoform disorder not otherwise specified (SDnos)” and left out other potentially relevant diagnostic subgroups of somatoform disorders such as somatization disorder, hypochondriasis and pain disorder. Instead, they introduced a new diagnostic category “severe current somatoform disorder”, which included MSD and SDnos with the addition of the DSM-IV impairment criterion (B-criterion). The prevalence rate of 27.2% for “medically unexplained symptoms” extracted from the study by Fröhlich et al. [2006] actually reflects the percentage of people suffering from at least one medically unexplained pain symptom; adding the DSM-IV impairment criterion (B-criterion) reduces the prevalence rate to 8.6% [36]. This finding is also interesting with regard to the study by Jacobi et al. [3], which is based on the same sample (German Health Survey, GHS). Jacobi et al. [3] combined somatization disorder, undifferentiated somatization disorder, hypochondriasis, abridged somatization disorder according to Escobar [49] and pain disorder into the category of “any somatoform disorder” and reported a 12-month prevalence rate for this disorder group of 11.7% for those aged 50 to 65, but unfortunately no prevalence rates for the subtypes are reported. However, compared to the results by Fröhlich et al. [36], it becomes apparent that 8.6% of the disorders classified as “any somatoform disorders” are pain disorders and that the remaining 3.1% are distributed over the 4 above-mentioned subtypes. The reported prevalence rate of 4.3% for abridged somatization disorder for the whole GHS sample indicates that this might be the second most frequent disorder within the 50 to 65-year-old group. Unfortunately, no prevalence rates across the whole...
sample are given for somatization disorder, undifferentiated somatization disorder or hypochondriasis, but we can assume that those rates were close to zero.

The 26.8% prevalence reported for somatoform disorders in people older than 45 years in the study by Hiller et al. [34] clearly exceeds estimates of the other studies in the review. On the one hand, this might be because a questionnaire was used to assess somatoform symptoms; on the other hand, this might be because the criterion was suffering from at least one symptom with a self-rated severe or very severe degree of associated impairment. Again, this resembles the undifferentiated somatiform disorder and neglects all other diagnoses of the DSM-IV somatoform disorder cluster.

In addition to the limited number of studies and varying age-cut-offs, assessment tools, and study populations, a major difficulty in interpreting research findings regarding somatoform disorders in the elderly is the rather inconsistent utilization of diagnostic labels and criteria. Although the generic terms “somatoform disorders” and “medically unexplained symptoms” apply to all of the above-mentioned studies, none of these studies really reported prevalence rates for the same entity. This general conceptual confusion might be a result of inherent difficulties in the definition of diagnostic criteria, which significantly hinders the comparison and integration of results and can lead to premature conclusions. The redefinition of the somatoform disorder category in the next version of the DSM can be considered an attempt to address this issue and facilitate research.

4. DSM-V SOMATIC SYMPTOM DISORDER—A HELPFUL SOLUTION?

Current diagnostic criteria for somatoform disorders have met criticism for a number of reasons. First, the idea that symptoms can be reliably divided those with physical or psychological causes is theoretically questionable and not supported by empirical data [14,50,51]. Regarding somatization disorder, there is agreement that simple symptom counts are not sufficient to diagnose a mental disorder because they neglect psychological aspects of the disorder [52]. Moreover, the time criterion (onset before the age of 30) for this disorder has been considered to be too restrictive [53].

On closer inspection with regard to older patients, the current criteria seem to discriminate against this group in particular by impeding the diagnostic process and thereby adding to the risk of underestimations of prevalence. The question of how to handle comorbid medical conditions becomes more significant in a population in which being physically ill is the rule rather than the exception. Beside chronic physical illness, other age-related phenomena might be used by clinicians and also by patients themselves to explain non-specific somatic symptoms in the elderly [54]. These phenomena include, for example, general degenerative processes, a tendency to multimorbidity with increasing age, and frequent medication use, which can be accompanied by non-specific side effects. Older people may also have difficulties in distinguishing symptoms from the background noise of the general somatic sensations they experience and might be more attached to biological models of illness and not take psychosocial factors into account as suggested by Wijerante and Hickie [55]. This separation of mind and body may lead to a neglect of accompanying psychological features that is further supported by clinicians who are also attached to a biomedical way of thinking. In addition to this major difficulty for defining medically unexplained symptoms, the current DSM-IV time criterion for somatization disorder requires that patients remember symptoms correctly over many years and that they also remember the time of onset, which needs to be before the age of 30 [29]. This lifetime recall is error-prone and might be an unnecessary challenge for elderly people suffering from current distress [48,56].

As we have already mentioned, somatoform disorders as defined by the DSM-IV do not appear to form a coherent category, and many of the subcategories have failed to achieve the status of discrete psychiatric disorders [13,18,56]. This has led to the exclusion of somatoform disorders in major epidemiological surveys and to proposals of a number of alternative criteria, which has resulted in a range of subtypes of somatoform disorders with a rather confusing nomenclature. In the rationale for the suggested revision of the somatoform disorder category in the DSM-V, it is stated that the group considers that the current DSM-IV somatoform diagnoses (somatization disorder, somatoform disorder NOS, undifferentiated somatoform disorder, hypochondriasis and the pain disorders) are so flawed that complete restructuring of these diagnoses is required [57]. Within the scope of this restructuring, the previous subcategories will be integrated to a single diagnosis entitled “somatic symptom disorder”. Symptoms will no longer need to be medically unexplained, several affective, cognitive and behavioral aspects will be included, and the impact of the time criterion will be reduced (for a detailed description of proposed criteria see Table 3). In general, the new classification seems to be more appropriate for reliably diagnosing this type of mental disorder and more valid for ageing populations than its precursor. Addressing physical symptoms regardless of their etiology might facilitate the diagnostic process especially in symptom-burdened older patients [58,59], and abolishment of the time criterion will contribute to a shift towards current suffering, which makes sense from a clinical point of view.

Voigt and colleagues [60] recently evaluated the new criteria in terms of clinical utility and construct, descrip-
Table 3. APA proposal for the revision of the somatoform disorder category (57).

### APA proposal for DSM-V somatic symptom disorder

Criteria A, B, and C must all be fulfilled to make the diagnosis:

**A. Somatic symptoms:** One or more somatic symptoms that are distressing and/or result in significant disruption in daily life.

**B. Excessive thoughts, feelings, and behaviors related to these somatic symptoms or associated health concerns:** At least one of the following must be present:

1) Disproportionate and persistent thoughts about the seriousness of one’s symptoms.
2) Persistently high level of anxiety about health or symptoms
3) Excessive time and energy devoted to these symptoms or health concerns

**C. Chronicity:** Although any one symptom may not be continuously present, the state of being symptomatic is persistent (typically > 6 months).

**Specifications:** Predominant Pain (previously pain disorder). This category is reserved for individuals presenting predominantly with pain complaints who also satisfy criteria B and C of this diagnosis. Some patients with pain may better fit other psychiatric diagnoses such as adjustment disorder or psychological factors affecting a medical condition.

An increased presentation of physical symptoms in older patients primarily suffering from other mental disorders such as anxiety [63,64] or depression [65-68].

5. **CONCLUSION**

Our review of the literature has made it apparent that somatoform complaint is a clinical relevant topic in the elderly; however, little is known about the prevalence and manifestation of this phenomenon, which hinders recommendations for assessment and treatment. To some extent, the limited empirical data on somatoform disorders in older people might be explained by the current diagnostic criteria, which offer several obstacles and have received much criticism. The need to rule out any medical explanation and the rigid time criterion (onset before the age of 30) particularly impedes the detection of clinically relevant somatoform syndromes in the elderly. Moreover, the inconsistent use of diagnostic labels and criteria in studies investigating somatoform disorders in elderly populations makes it difficult to draw valid conclusions about the size and burden of the problem. The proposed DSM-V criteria address this problem of inconsistence nomenclature by integrating several disorders into one entity, somatic symptom disorder. The suggested criteria for this diagnosis seem to be more age-sensitive, but further research is certainly needed to answer the question of whether these new criteria will substantially improve the validity and practicability of diagnosing somatoform disorders in the elderly.

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