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Medically unexplained symptoms in later life

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CHAPTER 2

Prevalence of somatoform disorders and medically unexplained symptoms in old age populations in comparison with younger age groups; a systematic review.

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Abstract

Objective: To review current knowledge regarding the prevalence of somatisation problems in later life by level of caseness (somatoform disorders and medically unexplained symptoms, MUS) and to compare these rates with those in middle-aged and younger age groups.

Method: A systematic search of the literature published from 1966 onwards was conducted in the Pubmed and EMBASE databases.

Results: Overall 8 articles, describing a total of 7 cohorts, provided data of at least one prevalence rate for somatoform disorders or MUS for the middle-aged (50-65 years) or older age (≥ 65 years) group. Prevalence rates for somatoform disorders in the general population range from 11 to 21% in younger, 10 to 20% in the middle-aged, and 1,5 to 13% in the older age groups. Prevalence rates for MUS show wider ranges, of respectively 1.6 to 70 %, 2.4 to 87%, and 4.6 to 18%, in the younger, middle, and older age groups, which could be explained by the use of different instruments as well as lack of consensus in defining MUS.

Conclusion: Somatoform disorders and MUS are common in later life, although the available data suggest that prevalence rates decline after the age of 65 years. More systematic research with special focus on the older population is needed to understand this age-related decline in prevalence rates.

Introduction

Medically unexplained symptoms (MUS) are physical symptoms of which presence, severity or consequences cannot be conclusively explained by any detectable physical disorder¹. MUS are common in the general population with reported prevalence rates in primary care varying between 25 and 50%²⁻⁴. Within the International Classification of Diseases version 10 (ICD-10) as well as the Diagnostic and Statistical Manual for Mental Disorders version IV (DSM-IV), medically unexplained symptoms are classified under the section of somatoform disorders. In order to meet the official criteria for any of these somatoform disorders, the ICD-10 places emphasis on 'a psychological cause' of bodily symptoms, whereas in the DSM-IV for most somatoform disorders a psychological cause has to be assumed and most emphasis is placed on the presence of significant impairment in social, occupational and/or other areas of functioning due to MUS. Reported prevalence rates for all forms of somatoform disorders together vary from 10-25% in primary care⁵⁻⁹. Whether somatization, the tendency to express psychological distress with somatic complaints, is more common in old age remains a matter of debate¹⁰⁻¹².

Patients with MUS or somatoform disorder report significant decreases in quality of life, impairment in daily functioning, increased high health care utilisation, and often undergo medical examinations and treatments unnecessarily¹³⁻¹⁵. In an adult population, MUS double the costs for both inpatient and outpatient health care utilisation compared to patients without MUS when adjusted for the presence of comorbid psychiatric and somatic disease¹³. Moreover, the increase of health care utilisation over a follow-up period of 5 years was higher in MUS patients than in patients without MUS¹³. Furthermore, this increase was higher than the increase associated with depressive disorder or anxiety disorders, disorders that are also associated with increased health care consumption over time¹⁶. Increased medical consumption is not only problematic from an economical viewpoint, but also increases the risk of iatrogenic damage due to unnecessary additional diagnostic and treatment procedures or significant doctor's delay (by not taking patients seriously anymore). These risks are probably even more relevant in later life, as older persons are frailer, have a higher a priori chance of underlying somatic diseases, and are more dependent on carers.

The past decades, several psychiatric interventions for MUS and somatoform disorders have been proven effective¹⁷. This optimism is tempered by the experience that numerous patients with MUS refuse "psychological treatment"¹⁸. Older people may be at double risk for withdrawal of adequate treatment. First, older people are less often offered psychological therapy¹⁹. Nevertheless, age does not seem to be a factor associated with the acceptance of psychological treatment for functional symptoms¹⁸. Secondly, in case of older patients, physicians are often faced with somatisation in the context of chronic somatic diseases. Higher comorbidity rates as well as higher a priori chances of underlying physical illnesses as explanation for MUS in older people may caution physicians to diagnose MUS or a somatoform disorder²⁰. Therefore, data showing increased numbers of somatic explained

symptoms with increasing age and no or only a very weak correlation between MUS and age are difficult to interpret²¹⁻²³. For example, frequent attenders, often used as a proxy for MUS, are more common among older persons than younger persons²⁴, but when corrected for all other significant factors, such as number of chronic diseases, age itself was not associated with frequent attending²³. Furthermore, prevalence studies in Dutch primary care have yielded inconsistent findings for older patients, showing lower rates for somatoform disorders, but increased prevalence rates for persistent MUS^{6,25}.

To our knowledge, only two reviews have published on somatoform disorders in the elderly specifically^{10,11}. The review by Sheehan & Banerjee (1999) was conducted before the majority of epidemiological studies on the prevalence of somatoform disorder in later life have been published. Nevertheless, these authors concluded that somatisation disorder in itself is rare in the older population, but that clinically relevant somatisation occurs frequently. Although the authors warn to use “masked depression” as explanation for somatisation in older persons, they acknowledge the high comorbidity between somatoform and mood disorders. The importance to disentangle somatisation from pure anxiety or depression is substantiated by another review, not specifically focussed on older persons. It shows that having numerous somatic symptoms or illness worry is associated with impairment and health care utilisation independent of anxiety and depressive symptoms¹². A German, more recent and systematic review on the effect of aging on somatisation stated that ageing per se is not associated with an increased level of somatisation, but that the scarcity of empirical data preclude final conclusions¹¹. Both reviews identified problems caused by between-study differences in the definition of somatisation problems, instruments used to measure somatisation, and finally the setting of the research population.

The objective of the present study is to estimate the prevalence of somatisation problems in the older population. More specifically, we will first estimate prevalence rates according to the level of caseness, i.e. MUS and somatoform disorders according to DSM or ICD criteria. Secondly, we will compare prevalence rates of MUS and somatoform disorders in older age groups (≥ 65 years) with those found in middle aged (50-65 years) and younger populations (< 50 years).

Methods

We performed systematic searches of the PubMed and EMBASE databases for the period 1966 through June 2011 using the keywords: medically unexplained symptoms, somatoform disorder, aged, prevalence, epidemiology. If applicable to the keyword, MeSH terms were included and then combined with the search.

We used the following criteria for inclusion of articles:

- Firstly, articles had to provide prevalence rates of somatoform disorders or MUS. Acknowledging the scarcity of empirical data, we did not apply a time-reference to the prevalence rate, but we will report the time-reference of the included studies systematically.

- Secondly, prevalence rates had to be described for different age categories, including at least one age group above 50 years of age. We defined older persons as those aged 65 years or older, as in most developed countries the chronological age 65 years coincides with retirement and is generally accepted as a cut-off for defining the elderly²⁶. Acknowledging that this definition of old age is somewhat arbitrary, we also defined a middle-aged group consisting of persons aged 50-65 years as this is a period in which many chronic physical conditions start to develop.
- Thirdly, somatoform disorders had to be classified according DSM criteria and/or ICD criteria using standardized instruments. MUS are defined as physical symptoms of which presence, severity or consequences can not be explained by any detectable physical disorder. Acknowledging the lack of consensus for defining MUS, we did not apply specific restrictions with respect to definition or classification if methods were described in a reproducible manner.
- Fourthly, the study had to be conducted in the general population and/or primary care setting.

We did not apply any restrictions on the language of the article.

We performed two searches in Pubmed to identify articles about somatoform disorders and MUS, respectively. Using the keywords: medically unexplained symptoms, aged, prevalence yielded 116 hits. A second search using the keywords: somatoform disorder, aged, prevalence and epidemiology yielded 117 hits. Screening of all titles resulted in further examination of 38 abstracts and 35 full text articles, from which finally only six articles met our inclusion criteria. References were checked and provided two more useful articles. Repeating our search strategy in EMBASE did not yield any additional articles. Searches were performed independently by both PH and RC, where after results were compared and discussed. In case of disagreement RCOV was consulted for a final decision.

Statistical Methods

Although we originally intended to perform formal meta-analyses, we deemed a descriptive overview of the data more appropriate for the following reasons. Firstly, the number of articles was small. Secondly, results were heterogeneous, also after differentiating between somatoform disorders and MUS.

Results

Overall eight articles, describing a total of seven cohorts, were found that met our criteria (see table 1). In four of these seven cohorts somatoform disorders as well as MUS were assessed. The prevalence data of somatoform disorders and MUS in one cohort have been described in separate articles^{27, 28}. The three other cohorts only focussed on somatoform disorders^{29, 30} or on MUS²⁵, respectively

Age groups:

Four studies provided prevalence data for persons aged 65 years or above^{6, 25, 30, 31}, with one study applying an age cut-off at 60 years²⁹. The age cut-off for the middle-aged persons was even less consistent, with three studies using a cut-off at 45 years^{6, 25, 32} and four studies at 50 years^{27, 28, 31}. Nevertheless, two of these former studies^{6, 25} also reported prevalence data for those aged above 65 years or age (and were thus of interest). The other study³² only used the cut-off of 45 years did not provide further differentiation regarding the higher age group.

Populations:

We found four population surveys conducted in three different countries: two papers described data from the same German sample (German Health Survey (GHS, n =1321), one about somatoform disorders and one about MUS^{27, 28}; another paper also described a German sample (n=2552)³², one paper described a Norwegian sample (n= 1247)³¹ and finally the last described a French sample (n=504)³⁰.

Three other studies, two from the Netherlands^{6, 25} (n=1046 and n=225013, respectively) and one American study²⁹ (n=224), described prevalence rates in primary care.

Used instruments:

None of the studies included in the review used a similar diagnostic procedure. The most important differences were 1) whether or not a screening procedure was used, 2) type of diagnostic instrument that was used, and 3) the time-window that was applied.

TABLE 1: Summary of prevalence rates (%) for somatoform disorders and MUS by age

Study	Setting	Number	Diagnostic instrument		Age-group	
			Name	Time-window	< 50 years	> 50-65 years > 65 years
Somatoform Disorders						
Hardy 1995	General population	N=504	Telephonic interview	12 months	21	20 13
Jacobi 2004	General population	N=1321	CIDI	12 months	10.7	11.7
Leiknes 2007	General population	N=1247	CIDI	6 months	11.4 (m:7,3; w:15,1)	9.9 (m:3,8; w:16,4) (m:3,5; w:6,5)
Hiller 2006*	General population	N=2552	SOMS-7	7 days	12.6	26.8**
Waal de 2004*	Primary care	N=1046	SCAN	6 months	21.8	15.3
Lyness 1999	Primary care	N=224	SCID	Point prevalence		1,5 (m:1,3; v:1,6)
Medically Unexplained Symptoms						
Frohlich 2005	General population	N=1321	CIDI	12 months	28.8 (m:22,9; w:34,8)	27,2 (m:21,3; w:33,1)
Leiknes 2007	General population	N=1247	CIDI	6 months	26.3 (m:17.0 w: 34.8)	23.4 (m:15.3 w:32,2) (m:16,3 w:20,8)
Hiller 2006*	General population	N=2552	SOMS-7	7 days	69.7	87.1**
Waal de 2004*	Primary care	N=1046	SCAN	6 months	27.8	22.4
Verhaak 2006*	Primary Care	N=225013	Persistent MUS***	12 months	1.6	2.4 4,6

Abbreviations: CIDI, Composite International Diagnostic Interview; SOMS-7, Screening for Somatoform Symptoms – 7 days version; SCAN, Schedules for Clinical Assessment in Neuropsychiatry, m, men, w, women.
 * Age cut-off for the younger age group was set at 45 years
 ** This prevalence rate provides all persons of the age of 45 years or above (range 45-92 years).
 *** Persistent MUS were defined as: at least four contacts with a functional symptom and without a medical diagnosis as an explanation for the symptoms during one year.

Five of the studies used a two-stage screening procedure. Four studies started with a screening questionnaire and if positive, performed a diagnostic interview for somatoform disorders^{6, 27, 28, 31}. The study of Lyness used the Center of Epidemiologic Studies Depression Scale (CES-D) as screening²⁹. All persons above the cut-off point of 21 were included and a random sample of persons scoring under the cut-off point, aiming to oversample the amount of depressive disorders. The diagnostic instruments that have been used varied from fully structured interviews^{27-29, 31}, to a semi-structured interview⁶ to a self-report questionnaire³², to chart-review²⁵ and finally to a telephonic interview³⁰. Even the two studies that used the somatoform section of the fully structured computerized Composite International Diagnostic Interview (CIDI) were not fully comparable by taking a different time-windows describing respectively 12-month^{27, 28} and 6-month prevalence rates³¹. One study assessed current somatoform disorders with a duration of at least 6 months by using the semi-structured Schedules for Clinical Assessment in Neuropsychiatry (SCAN)⁶. The SCAN leaves room for further exploration and clinical judgement by experienced mental health professionals and is often considered the gold standard for diagnosing psychiatric disorders. Another study used the Screening for Somatoform Symptoms (SOMS-7), a standardized questionnaire that asks for symptoms in the last seven days³². One study used a two stage telephonic interview based on the classification according to DSM IV to identify somatoform disorders in the last year³⁰. Finally, the last study used data extracted from electronic records of 225013 patients of 104 general practices based on the International Classification of Primary Care (ICPC). This study focussed on chronic MUS, defined as four or more contacts for a somatic complaint, without a medical diagnosis in the period of a year. They argued that this definition is most close to clinically relevant somatoform problems²⁵.

Prevalence rates:

Table 1 shows prevalence rates for different age categories for somatoform disorders in the included articles. Given prevalence rates are for all different forms of somatoform disorders together. Prevalence rates in the general population range from 11 through 21% in the younger age group (below 45-50 years), 10 through 20% in the middle-aged group (45-50 to 60-65 years), and from 1.5 through 13% in the older age group (60-65 years or above). None of the studies found any differences between the younger and middle age groups, whereas the prevalence rate in the older age groups were consistently lower. Only one study found increasing prevalence rates above the age of 45 years, but this study did not report prevalence rates for persons aged 45-65 years and persons aged over 65 years separately³².

Reported prevalence rates for MUS are even more heterogeneous with highest prevalence rates for MUS defined as at least one symptom of mild severity in the past seven days³² and lowest prevalence rates for chronic persistent MUS in primary care²⁵. Interestingly, the study reporting persistent MUS in primary care found increasing prevalence rates with age, i.e. 1.6% below the age of 45 years, 2.4% for the age group between 45-65 years and finally 4.6% for those aged 65 or above²⁵. The age-effects in the other three studies were in line with those reported for somatoform disorders, i.e. no difference in prevalence rates between the

age groups below 50 years and between 50 and 65 years, but clearly lower prevalence rates in the age group above 65 years^{6, 28, 31}.

Discussion

Acknowledging the scarce literature on somatoform disorders and MUS in later life, our data suggest that somatoform disorders and MUS are common in older populations, although prevalence rates are lower than in younger populations. The differences between studies can partly be explained by the use of different diagnostic instruments, whereas the applied time-window may be less important. It seems plausible that semi-structured interview methods are more restrictive and therefore find lower prevalence rates than questionnaires¹¹. For example, all semi-structured interviews take only symptoms into account that have led to health care utilization. Looking at the population surveys we included, we indeed found the highest prevalence rates in the study that used a questionnaire³². The lowest prevalence rate of 1.5%, found among American older patients in primary care by using the Structured Clinical Interview for DSM-IV disorders (SCID) in a sample with relative oversampling of depressive persons, may seem puzzling²⁹. The most likely explanation is that the authors only reported prevalence rates for pain disorder and body dysmorphic disorder, whereas the more prevalent somatoform disorders like undifferentiated somatoform disorder and hypochondria were not assessed. A second, but less likely explanation is the inclusion in this study of patients from private internal medicine practices, as these patients might have had higher socio-economic backgrounds.

Although only four of the included studies did report prevalence rates for the age group above 65 years, the results suggest that prevalence rates of somatoform disorders and MUS are stable until the age of 65 years and decrease thereafter. The only exception to this finding is the study concerning persistent MUS, showing increased prevalence rates above the age of 65 years²⁵. These findings are in line with studies of somatoform disorders in highly selective samples (that had to be excluded for the present review for this reason³³⁻³⁵). Using the SCREENER questionnaire to screen for psychiatric disorders in a medical outpatient clinic population, 18% of the patients below the age of 63 years had a somatoform disorder versus 11% of those aged above 63 years³³. A study among a later life subpopulation (above the age of 55 years) of families of patients with Alzheimer's dementia or depression yielded a prevalence rate of 5% for somatoform disorder as assessed by the CIDI³⁴. This is similar to later life prevalence rates in included studies that used the CIDI as diagnostic instrument that found a prevalence rate of 5% above 65 years of age³¹. Nevertheless, also some lower than expected figures have been reported. Among long-term older benzodiazepine users who visited their general practitioner, a prevalence rate of 8% for somatoform disorders was found using the PRIME-MD questionnaire³⁵. This seems in line with other reported findings, although among benzodiazepine users the expected prevalence rate would be higher³⁶.

Nevertheless, two studies included in the review reported increasing prevalence rates for

somatoform disorders and MUS with increasing age. Both studies, however, might be biased by the limited ability to separate medically explained and unexplained symptoms, leading to an overrepresentation of somatoform complaints of which an organic cause is not excluded¹¹. The first study, only differentiating between patients under and above 45 years of age, used a self-report questionnaire (SOMS-7) assessing all 53 physical symptoms reported in the DSM-IV criteria for somatoform disorders³². Recently, we showed that in older persons the Patient Health Questionnaire (PHQ-15), a screenings instrument used to establish symptoms that point to somatoform disorders, had a similar correlation with an index of hypochondriasis (Whiteley Index) as an index of the burden of underlying chronic somatic diseases (Cumulative Illness Rating Scale)(Benraad, et al., unpublished results). This means the physical symptoms assessed by the DSM-IV might be less specific for somatoform disorders in older people, than in younger people. The second study used a very specific definition, which included a minimum of four visits a year at the GP for a somatoform complaint. This definition may have led to biased results, as older persons with somatoform complaints tend to be more frequent attenders than younger adults²⁴.

Why do prevalence rates for Somatoform disorders and MUS decrease in the elderly?

Current classification systems for somatoform disorders are not deemed appropriate for clinical use^{37, 38}. The formal criteria for a somatisation disorder are quite restrictive. These criteria may be especially restrictive for elderly^{4, 39}. For example, the inclusion criterion for somatization disorder is a presence of symptoms before onset of 30 years. Poor patient recall will bias and lower rates^{40, 41}. Overall prevalence rates of somatoform disorders may thus be lowered artificially, further substantiated by much higher prevalence rates for suggested abridged forms of somatisation disorder¹².

Secondly, used interview methods are not validated for an elderly population, which may lead to lower estimated prevalence rates for somatoform disorders. Epidemiological studies using standardized diagnostic interviews for other mental disorders, especially depression, have consistently demonstrated lower current and lifetime prevalence estimates in later life populations compared to younger populations^{42, 43}. Analyses of epidemiologic data in a population from 25-64 years based on the Diagnostic Interview Schedule (DIS) showed that older people more often attributed their symptoms to a physical condition in probe questions designed to identify the degree to which symptoms were caused by factors other than psychological. It was suggested that this response was due to the fact that the complexity of the formalized questions exceeded the cognitive capacity. "Working memory capacity" appeared to be a good predictor of this response behavior, also when corrected for co-morbid physical conditions⁴⁴. Because working memory capacity decreases with on-going age⁴⁵, this effect might become more prominent among older persons. The attribution of symptoms to a physical condition will lead to exclusion of diagnosis of somatoform disorder and thus to lower established prevalence rates for somatoform disorders. Thirdly, not only do older patients attribute bodily symptoms to physical disorders, older persons also have more co-morbid somatic disorders, which makes doctors reluctant to exclude a somatic origin of the complaint. We previously have reported that 50% of patients referred to our outpatient

clinic for MUS had a somatic disorder that partly explained their symptoms⁴⁶. Excluding patients with a partial, but not sufficient somatic origin of their symptoms, will lead to substantial lower prevalence rates. Indeed some studies reported to exclude patients in which there was any doubt about a somatic cause for the complaint⁶. Because of confusing terminology for somatoform disorders within the DSM-IV with implicit mind-body dualism and the unreliability of assessments of MUS, the American Psychiatric Association has proposed to rename the chapter of somatoform disorders into 'somatic symptom disorders'. The DSM-V Somatic Symptom Disorder Task Group has proposed to lump somatization disorder, hypochondriasis, undifferentiated somatoform disorder and pain disorder together in one disorder named Complex Somatic Symptom Disorder⁴⁷. This is in line with empirical findings showing that the number of medically explained and unexplained symptoms are more informative for a dimensional diagnosis of somatization than the clustering of specific symptoms into separate somatoform disorders or functional syndromes⁴⁸⁻⁵⁰. As the DSM-V will focus more on the number of bodily symptoms, irrespective of explainability or unexplainability of these symptoms or their associated dysfunctional cognitions, these new criteria may better serve older people. A final explanation could be that in old age subsyndromal forms of somatoform disorders are more common than somatoform disorders meeting full DSM criteria. This could be similar to depressive disorders in later life, where minor depression is much more common than major depression⁵¹. This latter explanation, however, cannot fully explain the lower prevalence rates of somatoform disorders in later life as MUS, which can be considered a subsyndromal somatoform disorder, also decreases with age.

Limitations:

For proper interpretation, some limitations should be acknowledged. Firstly, empirical data are scarce. Therefore, we choose to apply the cut-off for our a priori chosen age-categories liberally in order to be able to provide a more detailed overview of the literature. Nevertheless, the general neglect of somatoform disorders and MUS in old age still raises the question whether the few studies reported can be considered representative for the community-dwelling elderly population. Overall prevalence rates of somatoform disorders and MUS in the included studies, however, were in line with the prevalence rates in studies that also including middle-aged (50-65 years) and/or older persons (aged > 65 years) but that did not report age-specific data. For example, a German study using the CIDI found an overall prevalence rate for any somatoform disorder of 11% in the general population (n=4181) aged from 18 to 65⁸. An Italian study of the general population (n=673) reports a prevalence of 20% for all somatoform disorders using a semi-structured interview by a trained interviewer⁵ and a Spanish study in primary care (n=7936) found a prevalence of 29% using the PRIME-MD questionnaire⁷.

Secondly, the use of different instruments for assessing somatoform disorders limits direct comparison between studies. Although these limitations are also applicable to the younger population, research in old age psychiatry is further limited by fact that most diagnostic instruments for somatoform disorders are not validated for use in the elderly⁴⁴. Moreover, no consensus exist on the definition of MUS, whereas the criteria for somatoform disorders

remain also highly debated and have led to widely different solutions within research projects varying from the introduction of other diagnostic entities such as abridged somatisation disorder⁵² and multi-somatoform disorder³⁸.

Conclusion:

So far, little research has focused on somatoform disorders in the elderly. The existing evidence shows that somatoform disorders and MUS are still common in later life, although the available data suggest that prevalence rates decline after the age of 65 years. To understand why prevalence rates decrease beyond the age of 65, more systemic research with special focus on the old aged population is needed. Especially adaptation and validation of instruments to detect somatoform disorders in the elderly is needed for this purpose. To reveal the clinical relevance and natural course of subsyndromal somatoform disorders, research should focus on studying diversity, severity and chronicity of MUS rather than differentiating into separate diagnostic categories with arbitrary thresholds⁵³. Because of the lack of consensus on the definition of MUS, the prevalence rates for somatoform symptoms that do not fulfil the DSM IV criteria are difficult to interpret and the clinical importance of subsyndromal somatoform disorders remains uncertain. Suggestions for future classification should consider the appropriateness for old age populations.

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