# Course and predictors of medically unexplained pain symptoms in the general population

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## Abstract

**Objective:** The objective of this study was to explore the course and the predictors of clinically significant medically unexplained pain symptoms (MUS-pain) within the 6 months preceding the interviews at baseline and on follow-up in the general population. **Methods:** A Norwegian general population study of 605 persons interviewed with the Composite International Diagnostic Interview Somatoform Section was conducted in 1989/1990 (baseline), and 421 persons (69.6% response rate; 242 women and 179 men) were reinterviewed in 2000/2001 (follow-up). Cases of recent MUS-pain compared with those at baseline were assessed on follow-up. Four blockwise logistic regression analyses were undertaken to find predictors (such as stressful life events, living alone, depression and anxiety, and physical morbidity) for recent MUS-pain in 2001. **Results:** A small "stable" group of recent MUS-pain sufferers (8% of all reinterviewed and 33.6% of those with recent MUS-pain at baseline) was evident. In this group almost all were women. In addition to female gender being a significant ($P<.05$) marker of recent MUS-pain (which gives a twofold-higher risk compared with men), only depression—not the occurrence of prior recent MUS-pain—remained a significant ($P<.05$) predictor in the final model, increasing the likelihood of having recent MUS-pain by threefold. **Conclusion:** The prognosis of MUS-pain is relatively good, except for a small group (mainly women) that is prone to chronicity. Clinicians should examine for depression when confronted with MUS-pain patients and should be aware of the twofold-higher risk in women for persistent MUS-pain over a long time.
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## Introduction

Chronic pain is a very common health problem [1]. It is a common reason for seeking medical care and is also a frequent cause of work disability [2]. Pain symptoms account for over half of all outpatient visits [3]. Among patients with chronic back pain [4], those with excessive pain behavior were more disabled (self-rated and observer-rated) and were more likely to be female. Estimates of the prevalence rates of persistent somatoform pain disorder (SPD) as classified by *International Classification of Diseases, Tenth Revision* (*ICD-10*) [5] range from 0.6%

to 17.3% [6,7], and the female/male ratio was reported as 2:1 [7]. Pain symptoms are among the most common in the Composite International Diagnostic Interview (CIDI) Somatoform Section [8,9]. However, examinations of lifetime medically unexplained symptoms (MUS) by the CIDI have been demonstrated as not only variable over time but also unreliable due to a large degree of recall bias on follow-up [8,10]. Such lifetime data are therefore rather useless in assessing course over time and in finding how many respondents might have recovered on follow-up. The only possible way for epidemiological studies to amend this is to examine current or recent symptom reports at baseline and on follow-up. Examination of current (not lifetime) symptoms would also be in line with newer diagnostic concepts of the somatoform disorder (SD) spectrum [11]. Even though SPD [equivalent to chronic pain disorder associated with psychological factors (CPD) in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*] [12] has been reported as the most common among the SDs [13], suggestions have been made for the removal of pain disorder from future revised somatoform classification [11].

Whereas 13% of pain sufferers in a pain clinic and 36% in a family practice clinic reported no pain at 2-year follow-up [14], other long-term studies have found continuing medically unexplained pain in as many as 74% of patients with chest pain on follow-up [15]. In terms of risk factors, lifetime depressive disorder has been associated with a more than a threefold likelihood of first ever reports of incident back pain in a 12- to 13-year follow-up study [16]. Fifty percent of depressed patients have reported multiple MUS [17], and the psychobiology of MUS has been linked with depression even at the basic molecular level, involving decreased tryptophan, branched-chain amino acids, and other serotonergic amino acids [18]. In the presence of any physical symptom, there have been reports of a twofold to a threefold increase in coexisting anxiety and depression disorders [19]. Pain complaints measured by the scales of a symptom checklist [20] have also been found to increase the level of anxiety and depression, and MUS have been seen to worsen prognoses and the outcome of treatment for physical diseases [21]. In general, psychological distress has been found to be associated with MUS [22] and other MUS risk factors identified, such as childhood experience of illness in parents [23] and prior stressful life events [24,25]. Even though a physiological basis for MUS has been alleged [26], the relationship between MUS, physical diseases, and psychological distress is still ambiguous. Although persistent pain has been reported not necessarily to continue indefinitely [14], there is still a paucity in long-term follow-up studies of SDs [27] encompassing the course, prognosis, and risk factors of difficult medically unexplained pain symptoms (MUS-pain).

The aims of this paper will therefore be to explore the course and the predictors of at least one clinically significant recent (in the 6 months preceding the interview) MUS-pain. More specifically, the following research questions are posed:

1. What is the amount of recent MUS-pain among respondents interviewed at both time points, 1990 and 2001? What is the proportion of MUS-pain cases in 2001 compared with that at baseline in 1990? What is the proportion of "persistent" cases (i.e., recent MUS-pain in both 1990 and 2001)?
2. To what extent is recent MUS-pain in 2001, as well as change in recent MUS-pain from baseline to follow-up, related to (a) sociodemographic background (gender, age, geographical residential area, education, living alone, and experience of mental illness and/or alcohol abuse in parents); (b) level of and/or change in physical morbidity, depression, and anxiety; and (c) number of stressful life events within the last year?

## Materials and methods

### Overall materials

The study consists of respondents in the Norwegian Oslo–Lofoten general population cohort [28] who were interviewed in 1989/1990 (hereafter referred to as baseline or 1990) with the CIDI version 1.0 [9] Somatoform Section and reinterviewed 10–11 years later in 2000/2001 (hereafter referred to as follow-up or 2001) with the computerized Munich Composite International Diagnostic Interview (M-CIDI; updated electronic version of WHO CIDI version 1.2 in 2001) [29]. The initial baseline Oslo–Lofoten population sample consisted of randomly selected subjects aged ≥18 years who were drawn from the National Population Register of Norway, administered by Statistics Norway. Altogether, 2727 persons were interviewed with the Hopkins Symptoms Checklist 25-item scale questionnaire (HSCL-25) [30–32], out of which 713 refused and 2014 (1009 in Oslo and 1005 in Lofoten) consented to participate. This corresponded to 74% of the 2727 eligible persons and a sample that was representative of age (18–39 years, 49%; 40–59 years, 28%; ≥60 years, 23%) and gender (women, 53%; men, 47%) of the source population [33]. The initial baseline sampling has been previously described in detail [28,31–33]. The HSCL-25 questionnaire was used as a screen for mental health and was chosen as a measure of psychological distress [30,34,35]. All respondents with an HSCL-25 cutoff point of ≥1.55, in addition to a random sample of those with an HSCL-25 score of <1.55, were selected for the CIDI Somatoform Section [8]. The HSCL-25 showed a significantly higher proportion of women than men with scores of ≥1.55 [33], which may have caused the baseline CIDI sample to be skewed in the direction of being "sicker" (i.e., having a higher psychological distress load than the general