Persistent presentation of medically unexplained symptoms in general practice

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Objectives. To estimate the prevalence of persistent presentation of medically unexplained physical symptoms (MUPS) in general practice. To assess socio-demographic characteristics, health status and use of health services of patients who frequently present MUPS, compared with reference groups.

Design. One-year, nationwide, representative survey of morbidity in general practice in the Netherlands, including 400,000 enlisted patients in 104 general practices.

Results. Of all patients (age: 18 years and older), 2.45% who visited their GP at least once a year, presented at least 4 times in 1 year with symptoms which are commonly considered medically unexplained without getting a medical diagnosis during that period, that might explain the symptoms. These patients are significantly older, more often female, less educated, more frequently unemployed and more frequently from a non-Western origin than ‘average’ patients or patients with a medical diagnosis.

Conclusion. Although 25–50% of all reasons for visit to a GP concern symptoms that are not medically explained, the frequent presentation of such symptoms is much more rare. Frequent attendance because of MUPS is most common among elderly women with a lower socio-economic status.

Keywords. Epidemiology, family practice, frequent attenders, medically unexplained physical symptoms (MUPS).

Introduction

Twenty percent of GP-patient contacts concern physical symptoms without a pathological explanation.\textsuperscript{1} Of all episodes of illness in primary care, 77.7\% remain restricted to one doctor–patient contact,\textsuperscript{2} suggesting that most of these symptoms disappear spontaneously in the course of time. For a minority of patients, however, these symptoms become chronic and remain unexplained, even after comprehensive medical examination.

Although syndromes like ‘chronic fatigue syndrome’ or ‘chronic benign pain’ suggest categorical ‘diseases’, there are valid reasons to abstain from such categorizations and to consider suffering from medically unexplained symptoms as one general condition. Wesseley \textit{et al.}\textsuperscript{3} provide the following arguments, after studying case definitions and epidemiological findings concerning 12 different functional somatic syndromes.

—There is a considerable overlap in symptoms, required for a case definition, between several syndromes;
—patients meeting criteria for one syndrome, often meet criteria for other syndromes as well;
—patients with different syndromes share non-symptom characteristics;
—different syndromes respond to the same therapies.

Empirical evidence for Wesseley \textit{et al.}‘s argumentation is provided by Robbins \textit{et al.}\textsuperscript{4} who studied clustering of 23 symptoms, often associated with functional syndromes. These symptoms clustered in five syndromes (many of them loading on more than one

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Presented of medically unexplained symptoms

Method

Databases
Data originate from the second Dutch National Survey in General Practice. A nation-wide, representative sample of 104 general practices participated with 400,000 enlisted patients. During 1 year data on all contacts between GP and patients including diagnoses (coded within the International Classification of Primary Care, ICPC), prescribed medications and referrals were extracted from the routine electronic medical records. Within the electronic record, several diagnoses occurring together during one contact could be handled as equivalent. The unit of analysis is diagnosis. Sociodemographic characteristics (age, sex, ethnicity, marital status, education, insurance and employment status) of all patients were known.

Definition of medically unexplained physical symptoms
Robbins et al. used 23 symptoms to construct 5 clusters of frequently observed functional syndromes (see Appendix). Twenty of these twenty-three symptoms can be classified within the ICPC and thus traced back in our database. Although these symptoms in itself are often found to be medically unexplained, they might be symptoms of a disease as well. Therefore, we labelled an episode of illness ‘medically unexplained’ if the episode consisted of symptoms from the ‘Robbins-list’ while during the whole year, no medical diagnosis (i.e. an ICPC-code >70), had been registered, as an explanation for the symptoms. Secondly, to define the persisting character of the symptoms, a patient should have had at least four contacts with medically unexplained symptoms from one cluster of the ‘Robbins-list’. Patients fulfilling the criteria of at least four contacts with symptoms from one cluster of the ‘Robbins-list’, without having one contact with a medical diagnosis (ICPC >70), belong to the ‘MUPS group’.

Reference groups
Patients from the medically unexplained physical symptoms (MUPS) group can be compared with the general population minus the MUPS group (‘average patients group’), but patients from the MUPS group have been selected by their relatively frequent use of GP’s services. Therefore, a second reference group has been constructed, consisting of patients with at least four contacts with their GP concerning a medical diagnosis (ICPC >70) which should not be a diagnosis within the psychological realm (ICPC: P70–P99). This second reference group is called the ‘diagnosis group’.

Analysis
MUPS group, diagnosis group and average patients group are compared on socio-demographic characteristics, self-reported health and use of GP services. Multivariate techniques (logistic regression) are employed to account for the interdependence of socio-demographic characteristics and the possible influence of socio-demographic characteristics on use of services. Because of the unequal distribution of age and sex among the three groups, differences in health status and GP-contacts between the groups were analysed with univariate analysis of variance, controlling for age and sex.

Results
A total of 5507 patients of 18 years and older from a total population of 225,013 patients of 18 years and older with at least one GP contact during 1 year (2.45%) fulfilled criteria for the MUPS group. Regarding the five clusters, distinguished by Robbins et al., (see Appendix), most of these patients presented at least 4 times symptoms within the cluster ‘Pain’ or Fatigue (1.2 and 1.3% of the population, respectively). Of the total population, 0.7% presented symptoms within the cluster ‘Somatic symptoms of depression’ and 0.3% within the clusters ‘Irritable bowel’, respectively, ‘Somatic symptoms of anxiety’. As can be concluded from the summation of these 5 clusters, quite a number of patients met criteria for more than 1 cluster: 47%
of patients within the MUPS group met criteria for 1 cluster, 50% for 2 different clusters, 2% for 3 and 0.3% even for 4 different clusters.

The diagnosis group consisted of 63,566 patients of 18 years and older (28.82%).

Table 1 presents the distribution of socio-demographic characteristics for patients within the MUPS group, patients within the diagnosis group and for the average patient group.

Patients within the MUPS group are older than patients within both reference groups, a difference that can be attributed especially to the over-representation of 75+ patients within the MUPS group. The diagnosis group is older than the average patient group as well.

Women, patients with a low education and publicly insured people are strongly over-represented in the MUPS group, and to a lesser degree in the diagnosis group as well.

Patients from the MUPS group are more frequently divorced or widowed than patients from diagnosis group or population. They are more unemployed as well. Both patients from the MUPS group and patients from the diagnosis group are more often retired than the population. Patients from the MUPS group are more often from a non-Western origin than patients from both other groups (Table 2).

In a multivariate logistic regression analysis, testing the contribution of all socio-demographic variables to the prediction of MUPS versus Not-MUPS, all characteristics contributed significantly. The odds ratios should be interpreted as follows. When patients from the MUPS group and the average group are compared, women have almost 1.5 times the chances of men to belong to the MUPS group. A patient older than 75 years has 3.8 times the chances of an 18- to 24-year-old patient to belong to the MUPS group.
In order to avoid a mix-up between MUPS and old age, we repeated the analysis for 18- to 65-year-old patients but the results remained the same (results not presented in Table 2).

In the prediction of MUPS group versus diagnosis group, apparent differences between some categories disappeared after controlling for the other sociodemographic variables: the age effect is less prominent, divorced and widowed people were no longer overrepresented in the MUPS group compared with unmarried people and a significant difference between both groups regarding the proportion of patients with secondary education disappeared as well.

Table 3 presents the self-perceived health status and health use of services of the three groups.

After controlling for possible age and sex differences, patients in the MUPS group estimate their health status significantly worse than patients from both other groups. They experience more episodes of illness and much more episodes of illness, labelled as psychological by the GP. In fact, they have more than twice as much psychological episodes than patients from the diagnosis group and 3 times as much as the population minus the MUPS group. They have more contacts with their GP than patients from both other groups. Patients in the diagnosis group come second in all these respects, differing significantly from the population minus MUPS in all respects but one. Where episodes of illness, labelled with a ‘real’ diagnosis (ICPC >70) are concerned, the diagnosis group (selected on this criterion) presents most of them, but patients from the MUPS group still have far more episodes with a disease diagnosis than the rest of the population, notwithstanding the fact that they were selected on having at least four contacts within one cluster without a disease diagnosis.

Although the numerical differences between the 3 groups are quite substantial, the top 10 of most common diagnoses is almost identical for the 3 groups: urinary infections, hypertension, acute bronchitis, cough, eczema, dermatomycosis, anti-conception requests and cerumen are in the top 10 of all 3 groups. Of course, the symptoms on which the MUPS group was selected are left outside of consideration in this comparison.

Table 4 repeats Table 3, but now for patients from the MUPS group, split up according to the five clusters, we created (see Appendix). Because a patient can belong to more than one cluster, it is not possible to test the averages of the different clusters.

Patients within each specific MUPS cluster show a comparable pattern in that sense that patients in each specific cluster have more episodes of illness, more psychological diagnoses, more contacts and a worse estimation of their health status than patients from both reference groups. The number of episodes with a ‘real’ diagnosis is for patients in each specific MUPS cluster lower than for patients in the diagnosis group and higher than for patients from the general population minus MUPS.

Discussion and conclusion

Although 25–50% of all symptoms with which patients seek medical help cannot be explained immediately by a
medical diagnosis, only 2.5% of a visiting population of 18 years and older meet our criteria for chronically presenting such symptoms without medical explanation. These patients distinguish themselves from the average population by their age (they are older, especially the oldest age category 75+ is over-represented), sex (more often female) their lower education, marital status (more often widowed and divorced), their lower socio-economic status (more often publicly insured, more unemployed) and their descent (non-Western origin). Patients with MUPS differ in the same respect from patients who visit their GP frequently with a defined medical diagnosis, but to a lesser degree.

After controlling for differences in age and sex, patients from the MUPS group report a worse health status than patients from both reference groups. Despite the fact that one of the reference groups was selected on the same minimum number of contacts (but with a medical diagnosis), patients from the MUPS group had more contacts, more episodes of illness and more episodes with a psychological diagnosis than both reference groups. The kind of requests for help put forward by patients from all three groups was comparable, however.

Methodological considerations
The most important limitation of our approach is the a priori assessment of certain symptoms as ‘medically unexplained’. Of course, such an assessment is always dependent on context. As will be pointed out in the next section, especially among elderly people this a priori assessment might have been invalid and further research in this respect (disentangling frequent attendance by elderly and MUPS) is needed.

For the rest, we consider our database as robust and reliable with the following advantages over previous studies:

—large primary care database;
—availability of socio-economic and social background characteristics of patients;
—longitudinal data collected in the course of one year, providing us with the opportunity to focus on long-term lack of medical explanation.

Findings from other studies
Nimnuan et al.6 exploring medically unexplained symptoms without taking the persistent character into consideration, found that women, younger people and employed people had a larger probability to present medically unexplained symptoms. Frohlund and Frohlund9 who focused on unexplained chronic pain, found that women and people from the age groups 41–60 and 60+ ran the highest risks for chronic pain and the highest risks to be evaluated by the doctor as ‘difficult patients’. Chronic fatigue was found mostly among women.10 Reid et al.11 who compared patients with medically unexplained symptoms combined with frequent attendance with patients who attended frequently but whose symptoms were not unexplained (in fact our MUPS group and our diagnosis group) found no difference with respect to sex, employment status, marital status or ethnicity but did find that patients below 46 years presented relatively often with unexplained symptoms, while elderly people were over-represented in the group of frequent attenders without medically unexplained symptoms.

Especially regarding age our findings are not completely compatible with earlier findings. Nimnuan et al.6 pointed especially to the youngest age category (16–25 years) as having relatively many unexplained symptoms. In our data, this age category is clearly at a low risk for developing chronically medically unexplained symptoms. Nimnuan et al.6 did not include the chronic character of the symptoms in their definition. Reid et al.11 found relatively more medically unexplained symptoms among younger patients, but more frequent attenders among older patients. This raises the question if our definition has not led us to include a number of elderly, whose symptoms might be less ‘unexplained’, given the age of the patients, than the same symptoms are for younger people. Further research into the background of the oldest age-category of the MUPS group should reveal if our MUPS group has been confounded with frequent attenders whose symptoms are explicable, given their age.

However, repeated analysis of the group of 18–65 year old patients revealed completely similar results, so we may conclude that we are not discussing an artefact produced by old age.

As far as age is concerned, we conclude that younger patients might bring forward unexplained symptoms more frequently than older patients, but they do not tend to persist in it. Where this persistent behaviour is most obvious among the oldest age group, we should be careful not to confuse fragility with problem behaviour.

Problem behaviour is at stake when persistent presentation of unexplained physical symptoms is considered a sign for possible unspoken psychological problems, an association easily made by GPs.12,13 Hotopf et al.14 estimated at least 40% psychiatric cases among patients with MUPS. The simple fact that somatic symptoms of anxiety and depression are frequently found to cluster with other medically unexplained symptoms renders such an association plausible, and our finding that psychological diagnoses are over-represented among patients in the MUPS group is another confirmation for this relationship. However, in a substantial number of cases of medically unexplained symptoms psychopathology was clearly absent.7

Another characteristic frequently attributed to patients with medically unexplained symptoms is frequent attendance combined with pressurising behaviour.15 Frequent attendance, just like psychopathology,
again has no one to one relationship with medically unexplained symptoms: Reid et al.\textsuperscript{11} came across 61 persons (22\%) presenting at least twice during 3 years with medically unexplained symptoms among a group of 280 ‘frequent attenders’. This partial relationship is confirmed as well. Apart from their frequent presentation of medically unexplained symptoms, patients from the MUPS group are nearly twice as much diagnosed with an established medical diagnosis than patients from the average group, too. Our finding that patients within each cluster of MUPS perceived worse health and had more episodes of illness and more contacts with GPs than patients from both reference groups contributes to Wessely et al.\textsuperscript{’s}\textsuperscript{3} argument that patients with different syndromes show similar relationships with health-related outcome variables.

Conclusion

The problem of patients who frequently present medically unexplained symptoms might be less overwhelming than it might appear when surveys are limited to single presentation of such symptoms. General features of these patients are the worse perceived health and the frequent attendance, also for other illnesses that have a medical explanation. Patients with MUPS, as we defined them, are most frequently found among elderly, women and people with a lower socio-economic background. Given the contradictory results with other research, the validity of our definition for patients above 65 years remains to be investigated.

Although the phenomenon of persistent presentation of medically unexplained symptoms is perhaps less prevalent than might be concluded from cross-sectional studies, the relatively small group who become chronic is a serious object for concern. Recent literature offers suggestions for approaches in doctor–patient communication that might prevent such chronicity. Peters et al.\textsuperscript{16} have emphasized the position of the patient as an ‘expert’ who cannot be denied the sensations and signs he is experiencing. Therefore, an approach, called ‘normalization’ by Dowrick et al.,\textsuperscript{17} where the GP reassures the patient without putting the symptoms in a context that justifies patients’ experiences, is fatal because it makes patients stick to their symptoms. On the contrary, a GP should reassure the patient as far as the symptoms are not life threatening, but he should explore with the patient the meaning that can be given to the symptoms. He should jointly explore biomedical and psychosocial tracks right from the start.\textsuperscript{18,19} Although it has often been argued that patients would not be willing to discuss psychosocial explanations, Salmon et al.\textsuperscript{20} meticulously analysing doctor–patient conversations have shown that patients in most cases offer clues for possible psychosocial backgrounds while the initiative for further somatic exploration is mostly from the side of the GP.

Such recommendations will reduce the phenomenon of persistent presentation of medically unexplained symptoms further. However, such hope remains to be based on hard evidence as well to be produced by the research programs named above and, hopefully, many others.

Declaration

Funding: Data collection for this study were directly or indirectly funded by the Dutch Department of Health, Welfare and Sports and RVVZ (health insurance organization). Specific analysis for this paper was funded by Interpolis (insurance company).

Ethical approval: As the second Dutch National Study in General Practice was an observational study, without interference for the patients and without a link-age to any personal identification, ethical approval was not considered necessary.

References

\begin{enumerate}
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\end{enumerate}


### Appendix

**Table 1** Robbins et al.4 presented the following clustering of symptoms within five clusters of medically unexplained physical symptoms. All clusters were highly inter-correlated as well.

<table>
<thead>
<tr>
<th>Fybromyalgia syndrome</th>
<th>Chronic fatigue syndrome</th>
<th>Somatic depression</th>
<th>Somatic anxiety</th>
<th>Irritable bowel syndrome</th>
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<tbody>
<tr>
<td>Back pain</td>
<td>X</td>
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<td></td>
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<tr>
<td>Joint pain</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Extremity pain</td>
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<td>X</td>
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<tr>
<td>Headache</td>
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<td>Weakness</td>
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<td>Fatigue</td>
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<td>X</td>
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<tr>
<td>Sleep disturbances</td>
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<td>X</td>
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<tr>
<td>Difficulty concentrating</td>
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<td>Loss of appetite</td>
<td>X</td>
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<td>Weight change</td>
<td>X</td>
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<td>Restlessness</td>
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<td>Thoughts slow</td>
<td>X</td>
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<tr>
<td>Chest pain</td>
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<tr>
<td>Shortness of breath</td>
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<td>Palpatations</td>
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<td>Dizziness</td>
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<td>Lump in throat</td>
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<tr>
<td>Abdominal pain</td>
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