INTRODUCTION
Medically unexplained symptoms (MUS) are somatic symptoms that cannot be attributed to a clear organic cause after adequate medical examination. The severity of MUS ranges from mild, self-limiting symptoms to severe, disabling disorders. Depending on the exact definition, the prevalence of MUS is estimated to be 3–20% of consultations in general practice.1,2

Under current guidelines, GPs have a central position in the care of patients with MUS.3–8 Though GPs agree that patients with MUS should be managed in primary care, many perceive these patients to be difficult,9,10 with a dilemma over whether or not to pursue further diagnostic evaluations. GPs often feel pressured to undertake or refer for further diagnostic testing, but studies show that it may be the GPs themselves and not the patients who initiate these strategies.11 Pursuing further diagnostic investigations might have more negative than positive effects on symptoms and associated cognitions and emotions.12,13,14

GPs could also focus on symptom management, and provide advice about what patients can do themselves about their symptoms. A recent meta-analysis showed that self-help for MUS was associated with a significant reduction in symptom severity and improvement of quality of life.15 In accordance with these findings, current guidelines recommend GPs to encourage activating behaviour and to give practical and positive advice that patients can apply straight away.16

However, it is largely unknown what GPs do in daily practice when confronted with patients with MUS. GPs are trained to diagnose and treat disease, and might not have a large repertoire of symptom management strategies available. Studies on GP approaches to MUS are largely based on indirect accounts of consultations. A recent meta-synthesis of qualitative studies on management of patients with MUS in primary care identified 13 studies, all based on focus groups and interviews.17 These studies mainly focused on explanations and relational aspects, and thus lacked information on GPs’ actions with regard to stimulating symptom management. The few observational studies available focused on the topic of somatic interventions.12,18

One recent study explored a broader range of management strategies, and reported that GPs provide advice, mainly with regard to lifestyle, diet, and exercise. However, analyses were performed on routinely
collected health care data extracted from medical records of patients participating in a trial. The study noted that GPs varied in the way that they recorded what happened during the consultation, so it can be questioned whether this study provided a complete picture.

Knowledge about symptom management strategies that GPs use in daily practice is thus largely lacking. Such knowledge is essential to inform the development of new interventions and training programmes. Therefore, the aim of this study is to describe symptom management by GPs, using video recordings of real-life MUS consultations.

METHOD
Sample
Video recorded consultations and verbatim transcripts were collected in the course of the Clinical Assessment as Therapy in managing Medically Unexplained Symptoms project (CATMUS). CATMUS aims to develop an effective and acceptable intervention for MUS for GPs, which can be applied as part of a regular consultation. GPs in the region of Nijmegen in the Netherlands were actively approached for participation by one of the researchers. The study used purposive sampling to ensure that participating GPs varied in terms of age, sex, experience (length of time practising), and geographical location (city versus rural area). Once GPs had agreed to participate, one of the researchers visited the practice to inform the GPs about the study. They were told this study was about communication between GP and patient, with a special focus on MUS.

Data collection took place in 2015. One of the researchers was present for 1 or 2 days in the primary care practices. He invited all patients in the waiting room during that time who were aged ≥18 years and spoke Dutch fluently to participate. Patients were informed that the study was about communication between GPs and patients, without mentioning the special interest in MUS. In all, 509 patients were eligible, of whom 393 agreed to participate (77%). Consultations were video recorded without researchers present in the consulting room.

MUS was defined by the participating GPs. Immediately after the consultation, the GP answered the following question on a three-point scale [MUS, partial MUS, MES [medically explained symptoms]]: ‘Do you think this patient has MUS considering his/her physical symptom presentation?’ The analysis was based on patients who had been classified as MUS by their GP; the partial MUS group was excluded. This ensured that GPs dealing with what they perceived to be MUS were observed. Using GPs’ opinion to identify an MUS consultation has also been used in previous research. To check the initial MUS diagnosis, 3 months after the consultation GPs were asked whether an underlying somatic disease was found during the follow-up; this only occurred once. All MUS consultations from the CATMUS sample were analysed; 39 consultations with 39 unique patients and 18 GPs. Participant characteristics can be found in Table 1. Based on previous qualitative studies, this sample was expected to be sufficient for an in-depth description of provided symptom management.

Analysis
This study is a thematic analysis of management strategies for MUS used by GPs in real-life consultations. The method of thematic analysis was chosen as a first step to gain a comprehensive overview of key management strategies for future in-depth studies. Observation and coding of all consultations was independently performed by a male general medical doctor and a female psychiatrist specialising in somatic symptom disorders and with a degree in social anthropology. During the analytical process, they frequently discussed coding, categories, and themes with senior researchers; a female medical biologist and psychologist specialising in MUS research, and two male GPs experienced in performing qualitative research, to address possible biases.

The analysis followed the following steps. First, a management strategy was defined as ‘every effort proposed by the GP to be undertaken by the MUS patient in the nearby future to promote his or her physical and or emotional wellbeing, in and outside the medical realm’. Based on the authors’ experience as clinicians, and the literature, the following categories of management strategies...
were expected: additional tests, referrals, medication, watchful waiting, and symptom management. Symptom management was defined as ‘advice about what patients can do themselves to reduce the impact, severity, or frequency of their symptoms, outside the medical realm’. Second, a detailed line-by-line analysis was applied to code-observed management strategies as part of one of these pre-defined categories (closed coding), or as part of a newly emerging category (open coding). This was performed independently by two researchers for every consultation. After watching, reading, and coding a consultation, discussion took place between the two researchers, in an iterative process of seeking agreement, adjusting codes, and recoding consultations. Data from the verbatim transcripts were organised in Atlas.ti 7. Saturation in terms of management strategy categories was reached after analysing nine consultations, while no new themes of symptom management were found after analysing 24 consultations. Third, once all management strategies had been extracted from the transcripts, a thematic analysis was performed on the category of symptom management using One Sheet Of Paper analysis (OSOP). OSOP analysis is a way of visually rearranging the extracted data in order to define themes.27 summaries of all symptom management quotations were written on a single sheet of paper, rearranging them by looking at similarities and differences. As a result, themes emerged, describing the variety of symptom management by GPs. As the summaries also included the contextual embedding of symptom management, this yielded insights into the communication aspects related to how symptom management is promoted by GPs. For the results section, quotations that illustrated the essence of the themes were selected. To ensure intersubjective reproducibility and comprehensibility, the results were presented to and discussed frequently with senior researchers throughout the process of analysis.

RESULTS

In 39 consultations, 105 management strategies were identified; nearly half concerned symptom management. All but one consultation contained at least one management strategy, with a maximum of six strategies per consultation. The closed coding strategy identified all pre-defined management strategies: additional tests, referrals, medication, watchful waiting, and symptom management.

Symptom management

The in-depth analysis of symptom management resulted in the identification of six themes: cognitions and emotions, interaction with healthcare professionals, body focus, symptom knowledge, activity level, and external conditions.

Before discussing these themes in detail, three general observations are worth mentioning. First, a great variety of advised symptom management strategies was observed. Second, communication about symptom management strategies was often non-specific instead of practical. Thus, it remained unclear how suggested symptom management strategies should be carried out by the patient. Third, symptom management strategies were often presented in an ambiguous fashion. In these instances, GPs suggested a certain symptom management strategy while at the same time raising doubts about its potential effectiveness, for example, adding that ‘it is only an idea’, or ‘it is unknown whether it will actually help or not’.

Cognitions and emotions. Symptom management strategies focusing on cognitions and emotions were prominent, with an emphasis on cognitions. These were most often initiated by the GP, and were often communicated as an order, for example, ‘concerning your memory, don’t be so worried’. These orders were brief phrases,
and GPs rarely provided specific practical instructions to patients. For instance, patients were advised to accept their complaints: ‘So, I reckon we should just accept it, leave it be…’, but they were not instructed how to do this. The same absence of specific practical instructions was observed in advice on setting priorities: ‘Yeah, well, you constantly have to weigh in mind; with what do I gain, with what do I lose, what is still achievable?’ and, in another consultation: ‘You are going to set priorities, what is most important, and on what do I want to spend energy?’ Apart from one GP, emotion-focused advice was hardly observed, and virtually always concerned fear.

**Interaction with healthcare professionals.** In this theme, patients were advised and/or instructed on how to deal with healthcare professionals. In contrast to the theme of cognitions and emotions, symptom management advice related to interactions with health professionals was communicated in an open two-way conversation in which GPs regularly discussed their own position. In general, advice within this theme was clear and comprehensive. For example, when a patient asked whether she should try haptonomy as well as psychological treatment, she was told: ‘Because you’re that sensitive, make sure there is one person in charge of your treatment, so I would advise to attend only the psychologist now.’ The contextual embedding of this kind of symptom management was mainly support: GPs explained their role to the patient and their willingness to help, for example:

‘The moment you realise it doesn’t feel right, that you’re losing it, you can always come. Then we can try to improve or adjust.’ (GP)

‘I mean, you say your past means that you get worried sooner, so it’s logical that you’re here. And, it’s part of my job as a GP to reassure people who are worried. Justified or not. It’s called guidance. So, you must come whenever you want to. Not a problem.’ (GP)

**Body focus.** This theme included practical symptom management advice about posture, breathing, relaxation, home remedies, and nutrition. These symptom management strategies mostly resulted from a dialogue between the GP and the patient, or from a direct question of the patient. For instance, one patient asked: ‘Can I also treat it with, well I don’t know if it works, tiger balm?’ Whereupon the GP replied with: ‘Yes, that’s fine.’ Suggested symptom management strategies in this category were often short and non-specific, for example, ‘keep a relaxing posture at work, and a good posture with sports’, and they were sometimes communicated in an ambiguous manner. One GP replied to a patient’s question with: ‘Massage, that’s good, feels pleasant. We actually never know whether it fastens [the healing] or…’ Another GP advised stopping drinking alcohol during the week, while approving it at the weekend, even though he mentioned this might negatively influence stopping it during the week:

**Symptom knowledge.** GPs used two ways to increase their patients’ knowledge about their symptoms. First, GPs suggested patients register their symptoms in a diary. Examples included a patient with fibromyalgia who was advised to keep a pain diary, and a patient with symptoms of fainting who was advised to register blood pressure.

The GPs explained to their patients that the aim of this symptom management strategy was to gain further insight into their symptoms. However, in none of the consultations did it become fully clear what the GP aimed to do with these registered data:

‘Four glasses a day is a lot, so it’s a good idea to cut down.’

**Patient (P):** Yes, I just did, and now I’ve only got it for the weekend. I do drink then. I want to, because otherwise…

**GP: Should be okay:**

P: ‘Yes, that’s what I think, see how it goes.’

GP: ‘I can imagine that it might make it harder during the week. But it’s a matter of trying.’

P: ‘Right, it is. I’ll just try and see how it goes.’
you’re affected by it, then this might make your blood pressure drop, and then we might need to do something about it.’

Second, GPs provided leaflets with information about symptoms. Presenting a leaflet occurred in one consultation as follows: ‘... giving you a leaflet ... it might provide tools, but, well, it is not going to help you for this episode, I think’, by which the GP raised doubts about the potential effectiveness of the leaflet. Strategies related to symptom knowledge were always initiated by the GP.

Activity level. The essence of this theme is that patients are advised to change their activity level. Of note is the fact that all GPs in this sample advised patients to stay at the current activity level or to do less. Patients were instructed not to do too much during the day and to maintain a daily rhythm with sufficient rest. None of the GPs suggested increasing activity levels. When GPs confirmed already performed activities of the patients, they did so in specific and unambiguous terms. In contrast, when they provided advice on activity levels, it was non-specific, for example: ‘So, in your holiday you can make sure you are at rest and you are able to recuperate.’

External conditions. This theme contains symptom management strategies focused on adjustments at work or at home. Such adjustments were presented as a solution for a proposed perpetuating factor. This solution was communicated quite ambiguously in a case in which the GP recommended a stair lift, while repeatedly commenting on the high costs of it:

Patient’s husband (PH): ‘Yes, there is one. We can make one. It’s an office at the moment, but we can turn it into a bedroom, but the shower’s still upstairs. You’d have to install a shower downstairs.’

GP: ‘Yes, that’s expensive too.’

**DISCUSSION**

**Summary**

This study showed that symptom management is a considerable part of GP care for MUS, as it comprised nearly half of all observed management strategies. Besides symptom management, GPs promote additional tests, referrals, medication, follow-up consultations, and watchful waiting. An in-depth analysis of symptom management strategies identified six themes: cognitions and emotions, interaction with healthcare professionals, body focus, symptom knowledge, activity level, and external conditions. Advice on symptom management was often non-specific and communicated in an ambiguous manner.

**Strengths and limitations**

To the best of the authors’ knowledge, this study is the first to address advised management strategies for MUS by observing and analysing what GPs do in daily practice. Focus groups and interview studies give insight into experiences and opinions on dealing with MUS, whereas this research method provided a picture of GPs acting on MUS in daily practice. One recent study also analysed management strategies in daily practice, but was based on routinely collected healthcare data extracted from medical records of patients participating in a trial of treatment of MUS. Such a trial likely involves a specific group of GPs interested in MUS, and the routine coding of management strategies varied among GPs and was not as detailed as in this study. Another strength of the current study is that the GPs themselves decided whether it was an MUS consultation or not, ensuring that the findings were based on what GPs did when confronted with patients they considered to be patients with MUS. To check the initial MUS diagnosis, GPs were asked 3 months after the consultation whether an underlying somatic disease was found during the follow-up; this only occurred once. However, even if a GP’s initial assessment is incorrect, it will still determine the management strategies proposed in that consultation. A major advantage of relying on GPs’ interpretation is that it takes into account the heterogeneity between GPs in what they consider to be MUS.

The study also has limitations. Apart
from age and sex, no data were available on the 116 patients who did not agree to participate. Therefore, the risk of selection bias cannot be completely ruled out. However, the sample of patients varied in terms of sex, age, and type of complaints. Another potential drawback is the risk that communication behaviour was altered because the consultations were video recorded. However, research on video recording reports no significant effects on the behaviour of patients and doctors.26,27 Most patients in this study claimed that they had not noticed any change in their doctor’s behaviour, while most of these doctors said they experienced no difficulties in ignoring the camera.20 A further limitation is that the results were based on one consultation, with no information about previous and future consultations. However, the study as a whole included first consultations as well as follow-up consultations, resulting in a comprehensive overview of management strategies for MUS. Nevertheless, it was not possible to analyse how symptom management strategies develop in a care episode involving multiple consultations.

A final limitation is that the entire data collection was done before data analysis. Saturation in terms of management strategy categories and themes of symptom management was reached, but this does not mean that all possible symptom management strategies advised by GPs were covered. Though the population was centred in only one part of the Netherlands, the participating GPs did not have a special interest in MUS and varied in terms of age, sex, experience, and geographical location (city versus rural area).

Comparison with existing literature
A recent review has indicated that a broad array of self-help interventions is effective for the alleviation of symptoms and improvement of functioning in patients with MUS.15 This review included structured self-help treatments that are not routinely available for most GPs. However, it emphasises the potential of symptom management, in which patients have to act themselves on their symptoms. Participating GPs seem to endorse this, as nearly half of all observed management strategies concerned symptom management. From the current study, conclusions on whether the various symptom management strategies are associated with better or worse outcomes for patients cannot be drawn. However, several of these strategies are essential components of current treatments, such as changing cognitions and emotions in cognitive behavioural therapy, changing activity levels in graded exercise therapy, increasing symptom knowledge in psychoeducation, body focus in brief multimodal psychosomatic therapy and physiotherapy, and changing external conditions in occupational therapy.28,29 Thus, indirect evidence suggests that the various symptom management strategies identified in this study might be effective. However, their potential is not used to the full because observed symptom management was often non-specific instead of practical, and communicated in an ambiguous manner. This fits with the observation that patients with MUS identified the absence of a specific management plan as one of the problems experienced in the consultation, with GPs unclear about what patients should do after leaving the consultation room.25 That the potential of symptom management is not fully used seems in line with GPs finding MUS difficult to manage,9,10,12 and evidence suggesting that GPs think effective treatments are lacking.14 In addition, relevant information regarding symptom management, such as information on characteristics of MUS patients who are most likely to respond, is lacking.

Though many GPs are convinced that psychological factors play a role in MUS,26,27 the management strategies GPs used in this study do not support this conviction. The majority of all management strategies, as well as many observed symptom management strategies, were somatically oriented. This reflects the dominant medical model under which GPs are trained. In accordance with previous literature, patients seldom request a somatic intervention.12 In addition, referrals for psychological interventions were not observed in this study, even though guidelines recommend them.22 Discussions of psychological elements, such as perpetuating factors and how to change these, were rarely observed. These findings are in accordance with a recent study based on routinely collected healthcare data extracted from medical records of patients participating in a trial.19 In that study, the least frequently used strategies were exploration of perpetuating factors and referral to mental health care.19

Implications for research and practice
For future research, it would be interesting to study the process leading to specific management strategies. One question would be whether the number of previous consultations influences the type of management strategies and the way in
which they are communicated to patients. Previous studies suggest that management strategies might differ according to the phase in the care episode. It would also be interesting to study whether the choice of management strategy is coupled to specific explanatory models used by the GP. Future studies could also focus on the adoption of strategies, and whether this is influenced by the specificity and clarity with which they are communicated. How strategies are perceived by the patient might have a large impact on their potential effects. The effectiveness of management strategies deserves further study, also in relation to diversity, severity, or chronicity of complaints, or other patient characteristics, such as sex or age. Studies in which explanations, management strategies, and their effectiveness are combined, and studies about patients’ evaluations of management strategies, have the potential to improve the care for MUS in general practice.

In clinical practice, this study suggests that GPs should provide patients with a specific management plan that is clear about what patients can do after leaving the consultation room. Such a plan can be based on a discussion between GP and patient about symptom management strategies that might be helpful. Though there are no data on whether these specific strategies are associated with better or worse outcomes, circumstantial evidence suggests that they are a good starting point to collaboratively build patient-centred interventions.

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The research ethics committee of the Radboud University Nijmegen Medical Center approved the study (2015-1566). Written informed consent was obtained from all participating patients; patients were able to withdraw their consent at any time.

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The authors have declared no competing interests.

**Contributors**
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