The Effects of General Practitioners' Verbal Behaviour on Anxiety Levels of Patients with Medically Unexplained Symptoms

Master Thesis

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Abstract

Objective Patients with medically unexplained symptoms (MUS) may feel dissatisfied with their General practitioners' (GPs') care. They often feel misunderstood or anxious about their health outcomes. Previous research suggests that MUS patients have a higher need for emotional support than patients with explained symptoms (MES). The current study investigated whether GPs' verbal behaviour (informative vs. affective) had an effect on patients' anxiety.

Method A retrospective semantic content analysis was carried out on 50 recorded consultations of MUS and MES patients with GPs. GPs' utterances during the consultation were coded as informative or affective using the Roter Interaction Analysis System (RIAS). Patients' anxiety was measured with an abbreviated State Trait Anxiety Inventory (STAI).

Results GPs showed more verbal attentiveness with MUS patients than they did with MES patients. They also gave more direct instructions to MES patients than they did with MUS patients. The results of the current study showed no direct relation between affective behaviour and changes in reported anxiety for MUS/MES patients. There was, however, a significant relationship between the giving of direct instructions and patients' reported anxiety.

Conclusions Patients who receive direct instructions reported lower levels of anxiety, mirroring the findings of Stortenbeker et al. (2018). Contrary to what was expected, the current study reported no relation between affective behaviour and lower levels of anxiety.

Preface

Before you lies my master thesis, titled "*The Effects of General Practitioners' Verbal Behaviour on Anxiety Levels of Patients with Medically Unexplained Symptoms*", which was based on a content analysis of recorded consultations between general practitioners and patients with (and without) medically unexplained symptoms.

I was introduced to this group of patients during a seminar on medical communication, held by general practitioner and researcher Tim olde Hartman. His sincere and telling story about these frustrated (and frustrat*ing*) patients inspired me to learn more about their experiences, and to try and find out what might enable general practitioners to help these patients.

It was exciting to work with data that was part of a large study, and I would like to thank my supervisor Enny Das for guiding me through the process of my research, but most of all, for always being so uplifting and motivating whenever I felt like did not know what to do anymore. I would also like to thank my other supervisor Herman Giesbers, for helping me with my writing and for providing me with food for thought on the Dutch healthcare system. Finally, a special thanks to Lara Vaessen, who double coded my data, but also went through the entire process of writing a master thesis with me: it was challenging, but in the end, rewarding.

I hope you enjoy your reading.

Jeltje Bieleman

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Patients who come to their General Practitioners' office with symptoms that are difficult to diagnose by their GPs can be left dissatisfied with their physicians' care. These symptoms, that elude diagnosis, are called Medically Unexplained Symptoms (MUS) (Epstein et al., 2006). Patients with MUS can feel misunderstood, not taken seriously or even anxious. Whenever patients feel like their physicians are not sincerely interested, or pay no attention to them, they feel les connected to their GP, which may hinder the physician-patient relationship. On the other hand, many General Practitioners (GPs) find the care for MUS patients challenging (Houwen, Lucassen, Stappers, Assendelft, & Van Dulmen, 2017). Even though both patients and GPs find that physicians' empathy plays a crucial role in doctor-patient communication, there is still a gap between expectations and reality (Derksen, Olde Hartman, Bensing, & Lagro-Janssen, 2017). Because of the large number of protocols and checklists that need to be followed, GPs may experience difficulties in meeting the expectations of their patients. The discrepancy between expectations and reality can cause problems during medical consultations; physicians may feel powerless, which prevents them from looking at cases from different perspectives.

Communication is an important factor in the physician-patient relationship. Fujimori et al. (2003) found that a communication skills training for oncologists had a positive effect on patients' satisfaction with their doctors, and on doctors' confidence in communication with patients. This indicates that medical students could benefit from communication training early in their study programme, and that even graduated physicians still have room for improvement when it comes to physician-patient communication. To explore the impact of physicians' communication towards patients, and specifically patients with Medically Unexplained Symptoms, on the anxiety that MUS patients may experience, the current study identified patterns in physicians' verbal behaviour in consultations with MUS patients, and patients with Medically Explained Symptoms (MES) and investigated whether physicians' verbal behaviour is correlated to patients' anxiety after consultations.

Background

Medically Unexplained Symptoms (MUS) are highly common in primary care (Steinbrecher, Koerber, Frieser, & Hiller, 2011). The term MUS refers to a social and clinical predicament, not a specific diagnosis. Of all symptoms that patients present to their physicians, 15-30% are medically unexplained (Kirmayer, Groleau, Looper, & Dao, 2004). Patients with MUS are often left in the dark about the cause of their symptoms. This feeling of being misunderstood or not taken seriously can lead to severe cases of anxiety or depression. This effect is especially apparent for female patients (Steinbrecher et al., 2011). Although overall, women are more likely to visit a doctor when they experience medical complaints, medically unexplained symptoms do occur in women more often than they do in men. Furthermore, women's risk to suffer from anxiety or depression is twice as high, compared to men. Anxiety as a result from MUS is a phenomenon that has been studied thoroughly. It has been established that the symptoms presented by patients always have somatic, cognitive, emotional, social and behavioural dimensions (Houwen, Lucassen, Stappers, Assendelft, & Van Dulmen, 2017). Mainly the emotional and social dimensions of patients with MUS are important for physicians to take into account, since the physical complaints of these patients often have psychosocial explanations (Nettleton, 2006).

It can be difficult for MUS patients to live with uncertainty about what caused their symptoms, and to deal with the legitimacy of the complaints. Nettleton (2006) refers to these issues as 'morality,' 'chaos,' and 'ambivalence.' Firstly, although patients may feel that their symptoms are serious, they are often found to question themselves, due to the lack of clinical information they receive from their doctors (morality). Secondly, because the clinical path that MUS patients take is not a standard one, patients may experience a sort of chaos, since there is no clear beginning or actual end to their illness. Finally, there is a certain amount of ambivalence involved in the medical situations of patients with MUS. Nettleton (2006) illustrates the problem of ambivalence for patients with MUS:

On the one hand, one does not want a 'disease' and yet one would welcome a 'thing'

to be cured (…) One wants support from medicine and yet one does not want to become

dependent on drugs and other treatments. One wants to undergo 'tests' that might reveal the

source of the problem and yet one does not want to face another set of negative results.

(Nettleton, 2006, p. 1173)

The uncertainty that this ambivalence causes with MUS patients may, in turn, lead to anxiety about health outcomes. This is where physicians can make the difference.

The role of doctor-patient communication in health outcomes

Existing research recognises the critical role the doctor-patient relationship can play in patients' health outcomes (Heath, 1984; Thomas, 1987; Stewart, 1995; Epstein et al., 2006).

Thomas (1987) focused on 'positive' and 'negative' consultations. In positive consultations, the patient was given a diagnosis in which the physician was confident that the patient would get better because of the prescribed treatment. In negative consultations, patients were told that the physician was not completely sure what was wrong with the patient, and that the physician was not sure whether the prescribed treatment would work. Patients who had positive consultations with their physicians reported more positive health outcomes (64% got better) than patients who had negative consultations (39% got better). However, in the present case the terms 'positive' and 'negative' do not only refer to the content, but also the form of the conversation.

The form of a message can make a difference in patients' health-related outcomes. In a study by Bingel et al. (2011), patients' expectations of the effectiveness of a drug reduced the pain they experienced. Positive treatment expectancies significantly improved the benefits of the tested drug. In contrast, negative treatment expectancies abolished the effects of the drug. Similarly, patients who were given a positively-framed prognosis had less psychological distress than patients who were given a negatively-framed prognosis (Porensky & Carpenter, 2016). Patients who heard a positively-framed prognosis were also more hopeful and rated their prognosis better than those who

heard a negatively-framed prognosis. In this study, the frame that was given to a message functioned as a placebo for patients. Along with positive and negative frames on a message, message directness is also a factor that may have an impact on health outcomes for patients with MUS and MES (Stortenbeker et al., 2018). Indirect negative messages (for example, "*your symptoms are not benign*") that were given during the treatment recommendation phase reduced anxiety for both MUS and MES patients, where direct negative messages (for example, "*your symptoms are malignant*") did not. Interestingly, general practitioners changed the directness of messages for patients with MES, but not patients with MUS, even though the anxiety of both groups decreased when the directness of a message changed.

Patients' needs

It is not only the form of a message that determines patients' health outcomes, but also the content of a consultation between physician and patient. Stewart (1995) distinguished between two dimensions of effective physician-patient communication: the flow of information, and emotional support, The flow of information was determined by the amount of information given by a physician, and how well the patient understood this information (e.g. treatment options or a diagnosis). Emotional support was determined by the amount of times the physician showed support (e.g. by asking how the patient was feeling or by expressing empathy)

This twofold approach to physician-patient communication illustrates the conflict that patients with medically unexplained symptoms (MUS) face. On the one hand, patients with MUS seek more emotional support from their doctors than other patients do (Salmon, Ring, Dowrick & Humphris, 2005). On the other hand, patients are expected to present their symptoms to their physicians, but if they do not feel taken seriously, they may not feel comfortable enough to share information about their physical and emotional problems with their doctors. Furthermore, other research has demonstrated that physicians tend to explore MUS patients' concerns less fully than

patients with Medically Explained Symptoms (MES) (Epstein et al., 2006). Similarly, psychological concerns were addressed less frequently for MUS patients than MES patients.

The discordance between MUS patients' needs or expectations and physicians' behaviour may lead to dissatisfaction for both parties. It is therefore of importance to identify physicians' behaviour and patients' reactions to their physicians.

Stewart's (1995) and Epstein et al.'s (2006) findings on physicians' informative and emotional behaviour complement Bensing & Dronkers (1991), who found that physicians' verbal behaviour correlated strongly with patients' perceived quality of care. Moreover, patient-centeredness, a concept which combines five perspectives (the biopsychosocial perspective, the 'patient-as-person', sharing power and responsibility, the therapeutic alliance, and the 'doctor-as-person') to increase patient satisfaction (Mead & Bower, 2000b). Patient satisfaction, in turn, correlates positively with patients' perception of care. Positive perceptions of care were associated with better recovery, better emotional health and fewer diagnostics and referrals (Oates, Weston, & Jordan, 2000).

In many of the aforementioned studies, it remains unclear on what factors exactly GPs can intervene to improve the relationship between doctor and patient. The quality of physician-patient interaction has been a topic of interest in recent research, but has proven difficult to measure (Bieber, Mueller, Nicolai, Hartmann & Eich, 2010). Many instruments have been developed to measure the quality of doctor-patient interaction or its subscales: patient satisfaction, patient-centeredness, physicians' empathy or patient empowerment. The issue with most of these scales is that they are self-reported measures, and rarely include observable physician behaviour. It is therefore of importance to investigate ways to clearly operationalise physicians' verbal communication in consultations.

A scale which attempts to measure observable physician behaviour, is the Roter Interaction Analysis Scale (Roter, 1991). It was first explored by Hall, Roter & Katz (1987), who argued that physicians adopt either an information-giving (i.e., asking questions, giving instruction and

direction, and giving information) or social/affective approach (i.e., positive, negative, emotional, partnership building, and social exchanges). Patients with chronic obstructive pulmonary disease who had consultations with informative physicians reported higher levels of anxiety than patients who had affective consultations. The RIAS has been applied in several different contexts, including AIDS clinics and hospital Intensive Care units (Maclachlan et al., 2016; October, Dizon & Roter, 2018). No recent studies, however, have used the RIAS in general practitioners' consultations.

The current study

It is now well established that physicians' verbal communication styles have impact on patients' health outcomes. However, little attention has been paid to the different phases within medical consultations of general practitioners There might be differences in GPs' verbal behaviour between the phase of diagnosis and the phase in which the GP provides a patient with treatment advice. Differences in GPs' communication throughout the different phases of a consultation may have an impact on patients' health outcomes. It is also known that the form and directness of a message during the phase in which the physician gives treatment advice have an effect on MUS patients' health outcomes. However, little is known about the instrumental and affective dimensions of GPs' verbal behaviour during the phase of giving treatment advice on MUS patients' anxiety. Furthermore, the differences in patients with MUS or MES have not yet been explored in this context. The purpose of the current study is, therefore, to identify GPs' verbal behaviour (instrumental versus affective) during the phase of giving patients treatment advice, and to explore the relationship between physicians' verbal behaviour and anxiety for patients with MUS and patients with MES.

RQ1: To what extent do General Practitioners show instrumental and affective verbal behaviour with MUS (vs. MES) patients?

RQ2: To what extent do patients with MUS and patients with MES report different levels of anxiety?

RQ3: What is the relation between General Practitioners' verbal behaviour (instrumental vs. affective) and MUS and MES patients' anxiety levels after the consultation?

Method

In order to provide an answer to the research questions, a retrospective content analysis was conducted on transcripts of video recordings of general practitioners' consultations with patients with MUS and MES.

Participants and materials

The data used in the current study were collected by other researchers for a previous study that aimed to develop an effective intervention for General Practitioners in treating patients with MUS (Houwen, Lucassen, Stappers, Assendelft & van Dulmen, 2017). Procedures of the previous study were approved by the research ethics committee of the Radboud University Medical Centre. Patients who agreed to participate provided a written informed consent. Patients' personal data were made anonymous.

Twenty out of the 36 general practitioners who were approached agreed to participate in the study by Houwen et al. (2017). Patients were asked to participate in the study if they were over 18 years old and spoke the Dutch language. 77% of the approached patients provided consent to participate in the study. During a consultation, the general practitioner was filmed. Audio of both the GP and patient was recorded. After the consultation, the GPs indicated whether they thought the patient they had spoken to had MUS, partial MUS or MES. Previous research has used the same scale (Salmon, Ring, Dowrick, & Humphris, 2005; Salmon, Ring, Humphris, Davies, & Dowrick, 2009). Of the 393 patients that participated, 43 had consultations that were labelled as MUS, 36 were labelled as partial MUS, and the other patients were labelled as MES. Patients labelled with partial MUS were excluded from the study, because the research question in the current study focuses on differences between patients with definite MUS or MES. The video recordings of the consultations were transcribed by Houwen et al. (2017), using verbatim transcription methods. In

the current study, 50 transcripts were selected through random sampling. This resulted in a selection of 23 MUS patients and 27 MES patients (X^2 (49) = 50.00, p = .433). During the coding procedure, the researcher and second coder did not know whether the transcripts were of MUS or MES patients.

As can be seen in Table 1, the average age of patients with MUS was 49.94, and 53.53 for patients with MES. The MUS group consisted of 8 men and 15 women; the MES group of 14 men and 13 women (X^2 (1) = 1.49, p = .264). Out 50 analysed consultations, 24 were held with male GPs, and 26 with female GPs. MUS and MES patients were equally distributed among male and female GPs (X^2 (1) = 0.00, p = .982).

Table 1.   Demographic information for patients with MUS vs. MES.

	MUS (*n* = 23)	MES (*n* = 27)	
	M (SD)	*M (SD)*	Sig.
Patients' age	49.94 (17.82)	53.53 (18.66)	.492
Patients' gender	*n* (%)	*n* (%)	Sig.
Male	8 (35)	14 (52)	.264
Female	15 (65)	13 (48)	.264
Total	23 (100)	27 (100)	.264

NB: Significance was determined through t-tests (age) and Chi-square tests (gender)

Instrumentation

Patients' anxiety

Before and after the consultation, patients were asked to fill in a 10-item questionnaire called the State Trait Anxiety Inventory (STAI), which measured patients' state anxiety. Questions, such as "I

am worried", "I feel calm", and "I feel nervous" had to be rated on a four-point Likert scale, with answering options varying from "not at all" to "very much so" (Stortenbeker et al., 2018).

Physicians' verbal behaviour

Phase one: units of analysis

Before the coding procedure began, the units of analysis were determined. A verbal utterance is defined by Hall, Roter, & Katz, N. (1987) as 'the smallest discriminable speech segment to which a coder can assign a classification. This may be a single word, a clause, or a complete sentence.' The units analysed in this study were conversational turns. Linguistically speaking, a conversational turn is the unit of analysis that is the most natural within a conversation (Ford, 2004). It contains enough information for analysis and has a central language function in interaction.

The researcher analysed the transcripts and identified all conversational turns of GPs during the phase of treatment advice. This phase consisted of utterances regarding treatment, e.g. *"I suggest you take these tablets twice a day"*, or expected treatment outcomes, e.g. *"The skin must improve within two weeks"* (Stortenbeker, 2016). Expressions regarding practical matters, such as *"I will send the prescription to your pharmacy"* were not included, because the clause is not about the treatment itself.

A second coder, who is a student in the same field as the researcher, and is familiar with the subject, also analysed ten transcripts (20%) to identify all utterances ($\kappa = .47$). Because the inter-coder reliability in this phase was only moderate, the researcher and the second coder looked at the selected utterances together and decided for each utterance on which there was disagreement to either include or exclude it in the analysis. This resulted in 671 utterances, which were coded in phase two of the coding procedure.

Phase two: RIAS

Roter's (1991) original RIAS manual has been adapted by Mead & Bower (2000a) to four instrumental clusters and three affective clusters:

Instrumental behaviour:

1) Information: all information statements related to medical condition, therapeutic regimen, lifestyle, feelings, other;

2) Questions: all open-ended and closed-ended questions as well as asking for understanding, clarification, or opinion;

3) Counselling: all persuasive statements related to medical condition, therapeutic regimen, lifestyle, and feelings;

4) Direct Instructions: all statements that guide the patient through the consultation or imperative statements.

Affective behaviour:

1) Verbal attentiveness: showing agreement, paraphrasing and reflecting patients' messages, legitimizing his or her behaviour or feelings, and showing partnership;

2) Showing concern: showing worry, and giving reassurance;

3) Social behaviour: personal remarks, jokes, showing approval

Table 2. Examples of coded utterances per dimension, taken from analysed transcripts.

Dimension	Quote
Informative	
I1: Information	*"Your salivary gland is clogged, so it does not work properly. Therefore, the saliva cannot reach your mouth."*
I2: Questions	*"Are you worried that something is wrong with your stomach?"*
I3: Counselling	*"You know, we might not get to 0-1 tablets a day, but if we go from 3 to 2, then that would be amazing for now."*
I4: Directions	*"Let's continue with 175 milligrams of venlafaxine, twice a day"*

Affective

A1: Verbal Attentiveness	*"It sounds like you have already taken the most important step"*
A2: Showing Concern	*"I do not think this method can cause any harm, so you don't need to worry about that"*
A3: Social Behaviour	*"When you don't come to the clinic, I know you are well, so I'm very happy when I haven't seen you in a while"*

Procedure

To analyse GPs' verbal behaviour, the identified utterances were coded according to the Roter Interaction Analysis System (RIAS). After all utterances had been identified, they were classified as either instrumental behaviour or affective behaviour, as per Mead & Bower (2000a). Prior to the coding procedure, the second coder practiced coding on two transcripts that were not included in the study. By comparing the findings of the second coder to those of the researcher, it could be concluded that the codebook was reliable. After practicing, the second coder analysed 10 transcripts for information (I1), questions (I2), counselling (I3), directions (I4), verbal attentiveness (A1), showing concern (A2) and social behaviour (A3).

Each dimension was marked as either present or absent for each utterance. Whenever a selected utterance did not contain any informative or affective dimensions, it was excluded from the analysis. Examples of utterances for each dimension can be found in table 2. An utterance could contain more than one dimension of both verbal and affective behaviour. For example, the utterance *"It has to do with muscle tension, which irritated your shoulder joint and caused you pain; in most cases, the amount of pain decreases quickly"* was coded as I1: Giving Information and A2: Giving Reassurance. The general practitioner provides the patient with medical information about his/her condition (I1), but also tries to reassure the patient that the pain should go away soon (A2). Another example of an utterance coded with several dimensions is *"As soon as you notice the pain getting in the way of your daily functioning, give me a shout, and we will see what we can do about it*

together." This utterance was coded as I3: Counselling, I4: Direct Instructions, and A1: Verbal attentiveness. The general practitioner instructs the patient to contact the GP whenever the patient's pain gets worse (I4), and that they will look for a solution together (I3, A1), which shows partnership, and at the same time provides the patient with the doctor's advice on a proposed therapeutic regimen.

Inter-coder reliability

The inter-coder reliability of the variable '*Providing Information'* was moderate: $\kappa = .51$, $p < .001$; the inter-coder reliability of the variable '*Asking Questions'* was substantial: $\kappa = .68$, $p < .001$; the inter-coder reliability of the variable '*Counselling*' was fair: $\kappa = .29$, $p = .003$; the inter-coder reliability of the variable '*Directions*' was moderate: $\kappa = .50$, $p < .001$; the inter-coder reliability of the variable '*Verbal Attentiveness'* was slight: $\kappa = .18$, $p = .121$; the inter-coder reliability of the variable '*Showing Concern'* was slight: $\kappa = .11$, $p = .274$, and finally, the inter-coder reliability of the variable '*Social Behaviour'* was fair: $\kappa = .21$, $p < .029$.

Statistical treatment

To answer the first research question, Chi-square tests were performed to analyse the differences in verbal behaviour between MUS and MES patients. To answer the second research question, a repeated measures analysis for Anxiety in MUS/MES with Anxiety (before/after) as within-subject factor and MUS/MES as between-subject factor was conducted, as well as several correlations. To answer the final research question, a regression analysis was performed.

Results

Descriptive statistics

The aim of this study was to analyse the differences in Informative and Affective verbal behaviour for MUS patients and MES patients (RQ1). As can be seen in Table 3, 127% of all 671 identified utterances were Informative ($n=850$), and 91% were Affective ($n=611$). Some utterances contained more than one dimension; codes may therefore overlap.

Table 3.   Frequencies of Informative (I1, I2, I3 & I4) and Affective utterances (A1, A2 & A3) (N total utterances = 671; N total codes = 1461).

Dimension	MUS n (%)	MES n (%)	Total N (%)
Informative			
I1: Information	106 (16)	109 (16)	215 (32)
I2: Questions	61 (9)	47 (7)	108 (16)
I3: Counselling	207 (31)	175 (26)	382 (57)
I4: Directions	65 (10)	80 (12)	145 (22)
Informative total	439 (65)	411 (61)	850 (127)
Affective			
A1: Verbal Attentiveness	177 (26)	132 (20)	309 (46)
A2: Showing Concern	107 (16)	102 (15)	209 (31)
A3: Social Behaviour	47 (7)	46 (7)	93 (14)
Affective Total	331 (49)	280 (42)	611 (91)
Total	**770 (115)**	**691 (103)**	**1461 (218)**

Differences between MUS/MES

A Chi-square test was carried out to determine whether physicians' verbal behaviour (on utterance level) was different for patients with MUS and patients with MES. A marginally significant relation between MUS/MES patients and *Verbal Attentiveness* (X^2 (1) = 3.83, *p* = .051) was found (See table 4). Physicians showed relatively more Verbal Attentiveness in consultations with MUS patients (49.6%) compared to consultations with MES patients (42.0%).

Table 4. X^2 between MUS/MES patients and variable A1: *Verbal Attentiveness* (*N*=671).

			Absent	Present	Total
MUS/MES	MUS	Count	180	177	357
		% within MUS/MES	50.4%	49.6%	100%
	MES	Count	182	132	314
		% within MUS/MES	58.0%	42.0%	100.0%
Total		Count	362	309	671
		% within MUS/MES	53.9%	46.1%	100.0%

A second Chi-square test showed a significant relation between MUS/MES patients and *Giving Direct Instructions* (X^2 (1) = 5.21, *p* = .022) (See table 5). Doctors gave relatively more direct instructions in consultations with MES patients (25.5%) compared to consultations with MUS patients (18.2%).

Table 5. X^2 between MUS/MES patients and variable I4: *Direct Instructions* (*N*=671).

			Absent	Present	Total
MUS/MES	MUS	Count	292	65	357
		% within MUS/MES	81.8%	18.2%	100%
	MES	Count	234	80	314

	% within MUS/MES	74.5%	25.5%	100.0%
Total	Count	526	145	671
	% within MUS/MES	78.4%	21.6%	100.0%

Additional Chi-square tests for *Information* (I1) (X^2 (1) = 1.94, *p* = .146), *Questions* (I2) (X^2 (1) = 0.56, *p* = .456), *Counselling* (I3) (X^2 (1) = 0.35, *p* = .557), *Showing Concern* (A2) (X^2 (1) = 0.49, *p* = .483), and *Social Behaviour* (A3) (X^2 (1) = 0.31, *p* = .579) did not reveal any significant relationships with MUS/MES.

Predicting changes in anxiety

RQ2 examined the relation between doctors' verbal behaviour and changes in patients' reported anxiety after the consultation for MUS and MES patients. A repeated measures analysis for Anxiety in MUS/MES with Anxiety (before/after) as within-subject factor and MUS/MES as between-subject factor showed a significant main effect of Anxiety (*F* (1, 48) = 7.39, *p* = .009, η^2 = .133). For both MUS and MES patients, anxiety levels after consultations were lower than before consultations. No significant difference between MUS and MES (*F* (1, 48) = 2.69, *p* = .107), and no significant interaction effect between Anxiety (before/after) and MUS/MES was found (*F* (1, 48) = 0.01, *p* = .928) (See table 6).

Table 6.   Means and standard deviations for Anxiety Before and Anxiety After between MUS and MES.

	MUS (*n* = 23)	MES (*n* = 27)	Total (*N* = 50)
	M (SD)	*M (SD)*	*M (SD)*
Anxiety before	2.19 (0.12)	1.93 (0.11)	2.05 (0.60)
Anxiety After	2.02 (0.68)	1.74 (0.60)	1.88 (0.64)

To examine the relation between physicians' verbal behaviour and patients' anxiety, a difference score for anxiety was computed by subtracting the scores for anxiety after the consultation from the

scores for anxiety before the consultation. This difference score, called *Change in Reported Anxiety*, was used in the following analyses.

As can be seen in table 7, a significant negative correlation was found between the informative behaviour *Giving Direct Instructions* and *Change in Reported Anxiety* (r (50) = -.28, *p* = .049). Patients reported less anxiety after they had consultations in which doctors gave more direct instructions. There were no significant relationships with other measures of verbal behaviour.

Table 7.   Correlations (*r*) between *Physicians' Verbal Behaviour* and *Change in Reported Anxiety* (N = 50).

	Change in Reported Anxiety	
	r	sig.
I1: Providing Information	0.05	.740
I2: Asking Questions	0.19	.184
I3: Counselling	-0.09	.517
I4: Giving Direct Instructions	-0.28*	.049*
A1: Verbal Attentiveness	0.10	.474
A2: Showing Concern	0.04	.786
A3: Social Behaviour	0.03	.818

To answer RQ3, a multiple regression analysis was conducted, which showed that the variables entered, MUS/MES and Informative behaviour (I1, I2, I3 & I4) and Affective behaviour (A1, A2 & A3), explained 15% of the variance in Change in Reported Anxiety (F (8, 49) = 0.92, *p* = n.s.) (See table 8). *I4: Giving Direct Instructions* was shown to be a significant predictor of *Change in Reported Anxiety* (β = -.32*, p* = .001), but *MUS/MES, Providing Information (I1), Asking Questions (I2),* and *Counselling (I3)* were not. Adding an interaction term between I4 and MUS/MES in the equation did not reveal any significant findings.

Table 8.   Regression analysis for MUS/MES and Informative/Affective behaviour as

predictors of change in patients' anxiety ($N = 50$) ** $p < .05$

Variable	B	SE B	β
Intercept	-.369	.382	
MUS/MES	.071	.137	.080
I1: Providing Information	.140	.342	.062
I2: Asking Questions	.630	.532	.183
I3: Counselling	-.169	.318	-.079
I4: Giving Direct Instructions	-.666**	.318	-.315**
A1: Verbal Attentiveness	.347	.369	.162
A2: Showing Concern	.001	.330	.001
A3: Social Behaviour	.216	.533	.070
R^2	.15		
F	0.92		

Exploratory analyses: The role of gender

Although no additional literature research has been done to imply an effect of gender on general practitioners' verbal behaviour, a few studies indicate a possible relation between MUS and patients' gender. Therefore, some exploratory analyses have been conducted.to determine whether gender had a possible influence on the variables measured in the current study.

To analyse whether patients' gender had an effect on the physicians' verbal behaviour, a Chi-square test was carried out. No significant effect of the patient's gender (23 men, 27 women) on *Verbal behaviour* was found (X^2 (49) = 9.39, $p = .052$). As can be seen in table 9, however, additional Chi-square tests for the separate dimensions (*I1-4* and *A1-3)* showed a significant effect

of the patient's gender on *I4: Giving Direct Instructions* (X^2 (1) = 4.76, *p* = .029). Physicians gave

more direct instructions in consultations with men (26.6%) compared to consultations with women

(19.2%). No significant effects were found for *Providing Information* (I1) (X^2 (1) = 0.54, *p* = .464),

Asking Questions (I2) (X^2 (1) = 1.87, *p* = .172), *Counselling* (I3) (X^2 (1) = 3.29, *p* = .070), *Verbal*

Attentiveness (A1) (X^2 (1) = 3.69, *p* = .055), *Showing Concern* (A2) (X^2 (1) = 1.60, *p* = .206), and

Social Behaviour (A3) (X^2 (1) = 0.59, *p* = .443).

Table 9. X^2 between Gender and *I4: Giving Direct Instructions* (N=671)

			Absent	Present	Total
Gender	Male	Count	160	58	22
		% within Gender	73.4%	26.6%	100%
	Female	Count	366	87	28
		% within Gender	80.8%	19.2%	100.0%
Total		Count	526	145	50
		% within Gender	78.4%	21.6%	100.0%

The regression analysis as reported in table 6 was repeated with *Patient's Gender* added in

the equation, but this analysis did not reveal any additional significant findings. A Chi-square test

between gender and *I4: Direct instructions*, with anxiety added as a layer, revealed a significant

interaction effect (X^2 (1) = 4.76, *p* = .029). The main effect of *I4: Direct Instructions* on anxiety is

moderated by patients' gender; patients who received direct instructions during a consultation

reported lower levels of anxiety after the consultation than before the consultation. This effect was

especially apparent for male patients.

Conclusion/Discussion

The aim of this study was to explore the differences in General Practitioners' verbal behaviour (Informative vs. Affective) between MUS and MES patients (RQ1), and whether different types of verbal behaviour showed a difference in patients' reported anxiety (RQ3). It was found that GPs showed more verbal attentiveness with MUS patients than they did with MES patients. Furthermore, they gave more direct instructions with MES patients than they did with MUS patients. The difficulties that general practitioners face in diagnosing patients with MUS, as addressed by Derksen, Olde Hartman, Bensing, and Lagro-Janssen (2017), were confirmed by these findings. Medically Unexplained Symptoms, in essence, are hardly ever diagnosed, making it difficult for general practitioners to give patients instructions on treatment. This lack of concreteness might get compensated with verbal attentiveness, as GPs showed this type of verbal behaviour more often in consultations with MUS patients than consultations with MES patients.

Although previous studies suggested that MUS patients have a higher need for emotional support from their physicians than MES patients (Salmon, Ring, Dowrick & Humphris, 2005; Stewart, 1995), the results of the current study showed no direct relation between Affective Behaviour and Changes in Reported Anxiety for MUS/MES patients. Affective behaviour, such as verbal attentiveness or showing concern, did not decrease patients' anxiety, contrary to what the existing literature suggested. This raises the question whether it makes sense for GPs to keep showing the previously discussed verbal attentiveness in consultations. It is important to keep in mind that, while the findings of the current study made it clear that there is no apparent relation between affective behaviour and the anxiety levels of patients, these findings may be somewhat limited by the use of the latter variable. Though affective behaviour may not have affected patients' anxiety after consultations, it might have influenced patients' long-term anxiety, depression or their appreciation of the consultation or GP. Further research should be undertaken to investigate the relation between affective behaviour and these possible factors.

On the other hand, the current study found a significant relationship between the giving of

direct instructions and patients' reported anxiety. Although GPs gave direct instructions more often to patients with MES than patients with MUS, both MUS and MES patients who received direct instructions from their General Practitioners, reported lower levels of anxiety after the consultation. This mirrors the pattern of findings of Stortenbeker et al. (2018) on another variable of interest. Specifically, these researchers showed that GP's changed the directness of messages for patients with MES, but not patients with MUS, and that the anxiety of both groups decreased when the directness of the message changed. It would seem that MUS patients would profit from direct instructions from their GPs, but instructions are more often given to MES patients than MUS patients. This is because the lack of a clear diagnosis for MUS patients makes it difficult to provide these patients with direct instructions on how to treat their symptoms. The results of the current study imply that general practitioners are faced with a dilemma: MUS patients need direct instructions from their GPs, but since there is no diagnosis, the GP cannot provide MUS patients with direct instructions. A possible solution for this problem might be to rephrase the verbal attentiveness that GPs show MUS patients in an imperative manner, so that they function as instructions. This might give the patients the feeling that they are taken more seriously by their GPs and that there is something that they can do that might help reduce their symptoms.

Contrary to the findings of Steinbrecher et al. (2011), the current study found no significant differences in anxiety levels between men and women. However, GPs showed more informative behaviour in consultations with male patients than in consultations with female patients. They also gave more direct instructions to male patients than to female patients. The lack of direct instructions for female patients might explain Steinbrecher et al.'s (2011) observations of female patients feeling misunderstood or not taken seriously more often than male patients. The effects did not differ between MUS and MES patients. These data must be interpreted with caution, because the current study focused on the effects of verbal behaviour on patients' anxiety, and although anxiety is a relevant variable, there may be other factors that moderate this effect of gender. This is an important issue for further research.

Furthermore, the exploratory analyses in this study showed that direct instructions are more often given to male patients than to female patients. Additionally, the effects for giving direct instructions on change in anxiety were stronger for men than women. This is something that general practitioners need to bear in mind during consultations. From the current study, it appeared that giving direct instructions has a positive effect in patients' anxiety, for both MUS and MES patients, and for both men and women. It is therefore of importance that all patients receive direct instructions from their general practitioners, when possible.

Limitations

The RIAS that was used in the present study to code general practitioners' verbal behaviour had been used before in previous research (Stewart, 1995; Mead & Bower, 2000b; Roter, 1991; Hall, Roter & Katz, 1987; Maclachlan et al., 2016; October, Dizon & Roter, 2018). However, the inter-coder reliability was low. This could have several reasons; the codebook may not have been clear enough, or the second coder was not properly familiarised with the codebook. Furthermore, patients' anxiety was measured using a shortened version of the STAI, as per Houwen, Lucassen, Stappers, Assendelft & Van Dulmen (2017). The full version of the scale might have provided different results, and in turn, might have been affected by verbal behaviour. Another limitation of the current study is that verbal behaviour might have influenced other factors than state anxiety, such as depression, long term anxiety, or appreciation of the consultation. Since the data were already recorded by other researchers, it was not possible to extract more data from the same patients. However, the present study adds to the growing body of research that indicates the difficulties that general practitioners face when treating patients with medically unexplained symptoms. The analysis of physicians' verbal behaviour undertaken here, has extended our knowledge of factors that might influence doctor-patient communication for MUS patients.

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