Long-term effects of a shared decision-making intervention on physician–patient interaction and outcome in fibromyalgia 
A qualitative and quantitative 1 year follow-up of a randomized controlled trial

Christiane Bieber a,*, Knut Georg Müller a, Klaus Blumenstiel a, Antonius Schneider b, Angelika Richter a, Stefanie Wilke a, Mechthild Hartmann a, Wolfgang Eich a

a University of Heidelberg, Medical Hospital, Department of Psychosomatic and General Internal Medicine, Heidelberg, Germany
b University of Heidelberg, Department of General Practice and Health Services Research, Heidelberg, Germany

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Abstract

Objective: Fibromyalgia syndrome (FMS) patients and their doctors frequently complain on interaction difficulties. We investigated the effects of a shared decision-making (SDM) intervention on physician–patient interaction and health outcome.

Methods: Sixty-seven FMS patients of an outpatient university setting that had been included in a randomized controlled trial were followed up. They were either treated in an SDM group or in an information group. Both groups saw a computer based information tool on FMS, but only the SDM group was treated by doctors which underwent a special SDM communication training. A comparison group of 44 FMS patients receiving treatment as usual was recruited in rheumatological practices. We assessed patients and their doctors using a combined qualitative and quantitative approach. Patients and doctors were followed-up after 3 months (T2) and after 1 year (T3).

Results: The significantly best quality of physician–patient interaction was reported by patients and doctors of the SDM group, followed by the information group. Coping had more often improved in the SDM group than in the information group. However directly health related outcome variables had not improved in any of the groups at T3.

Conclusion: An SDM intervention can lead to an improved physician–patient relationship from the patients’ and from the doctors’ perspective.

Practice implications: It should be considered to include SDM in standard care for FMS patients.

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Keywords: Fibromyalgia syndrome (FMS); Shared decision-making (SDM); Physician–patient interaction; Chronic pain; Coping behavior

1. Introduction

Patients suffering from fibromyalgia syndrome (FMS) are often dissatisfied with their physicians [1,2] and doctors characterize interaction with FMS patients as challenging and difficult [3–5].

FMS is a common chronic condition characterized by widespread pain of the musculoskeletal system and the existence of tenderpoints [6]. Often patients additionally feature functional symptoms such as sleep disturbance, fatigue, headache, dizziness, cold intolerance, irritable bowel syndrome, etc. [7,8] and psychological comorbidity is high [5,9]. Up to 3.4% of the population and mostly women are affected [6,10,11]. FMS causes much controversy among physicians concerning its etiology and pathogenesis. Studies support somatic as well as psychological influences and a multifactorial bio-psycho-social model finds the most support [12–15]. FMS is difficult to
treat because there is no cure available yet. Treatment aims at temporary alleviation of symptoms [16], at improvement of coping behavior [17], and has to consider the physician–patient relationship [15,18].

In the medical context FMS patients often experience skepticism, lack of comprehension, and rejection by their physicians [2]. On the average 5 years elapse after generalization of pain before a diagnosis of FMS is finally made [19]. The constant search for relief can lead to continuous disappointment and doctor shopping [2,18]. Patients relate that their symptoms are belittled and not taken serious due to the lack of objective proofs. The fear to be mistakenly seen as healthy hypochondriacs can lead to considerable efforts with the aim of enhancing their credibility [2]. Other unfavorable encounters with the medical profession include being blamed for their disease, confronted with stigmatizing psychological explanation models, and too demanding therapeutic recommendations [20]. FMS patients often spend all their strength on struggling, quarrelling and asserting themselves during consultations and tend to use “war” and “legal” metaphors in their descriptions of medical encounters [2].

The irritation seems to be reciprocal because doctors describe FMS patients as time-consuming, demanding, emotionally challenging, and draining [21]. FMS can constitute a challenge to their professional identity since they are chiefly trained to manage clearly defined somatic diseases with objectively measurable physiological dysfunction. The uncertainty as to pathogenesis, diagnosis, and the lack of effective cures can elicit feelings of insufficiency, helplessness, guilt, and frustration [3,22]. These negative feelings can cause doctors to want to withdraw from treatment by either limiting the amount of care provided or by referring these patients [5,16].

Different illness concepts of doctors and patients may be a source of distress. The doctors’ predominant bio-psycho-social understanding of the problem clashes with the patients’ prevailing assumption, that a disease is either exclusively physical or exclusively psychological in origin and phenomenology [20]. Unrealistic treatment expectations of patients can constitute another conflict between doctor and patient. Physicians and FMS patients often have differing views on the importance of certain treatment aspects [18]. However patients’ satisfaction heavily depends on whether their expectations are met and their preferences are considered [23].

This leads to the deliberation that a shared decision-making (SDM) model could be a potential solution for improving the charged physician–patient relationship. SDM stresses the idea of partnership between doctors and patients when it comes to making medical decisions. As to patient autonomy and responsibility for medical decisions, the SDM concept can be found in a mediating position between the paternalistic approach and the informed choice concept [24–27]. According to Elwyn et al. [26] SDM is most feasible in situations of professional equipoise when in certain clinical scenarios several legitimate choices exist and the clinician does not have a clear preference about the treatment choice to make. One important prerequisite for SDM [24] is the mutual exchange of information between doctor and patient, because the knowledge of both is needed to manage an illness successfully. The doctor contributes his medical expert knowledge on causes of disease, symptoms, treatment options, and prognosis, whereas the patient discloses his expectations, preferences, fears, attitudes to risk, values, experience of illness, and social circumstances [28]. After a process of negotiation with a final agreement, doctor and patient plan steps to put their shared decision into action.

So far there are no studies available that investigate the implementation of SDM principles in the treatment of FMS patients. A burdened physician–patient relationship is a major problem in the treatment of FMS patients and we expect the SDM model to be a potential solution. Therefore, we tested the effectiveness of SDM in FMS in a randomized controlled trial.

Immediate effects of the SDM intervention have been positive and are presented in a different paper [29]. In this paper we look at the long-term effects of SDM on physician–patient interaction, the decision-making process, coping behavior, and health related outcome variables.

Our main hypothesis on long-term effects of SDM is that SDM persistently improves physician–patient interaction with FMS patients because once a positive working alliance with the patient is established it should endure.

Secondary endpoints are measures related to the decision-making process, coping behavior, and directly health related outcome measures.

2. Methods

2.1. Study design

In a randomized controlled trial we compared an SDM group with an information group. Both of these randomized groups were seen in an university outpatient setting.

All patients applying for a first consultation in the outpatient clinic with the main complaint of musculoskeletal pain were asked to participate in the study. When they gave informed consent they were randomized either to the SDM group or to the information group. After confirmation of the diagnosis they were included in the study.

For additional information we recruited a non-randomized comparison group of FMS patients consecutively seen in a rheumatological office setting. We did not aim at randomizing this comparison group, because it would not have been acceptable for patients referred to a tertiary care setting to be randomized back to a secondary care setting.

Inclusion criteria for all patients were the diagnosis of FMS according to ACR-criteria [6], an age between 18 and 70 years, and sufficient knowledge of the German language. Exclusion criteria were the existence of serious psychological
or somatic comorbidities and the failure to come to the first appointment.

All patients were offered the same evidence-based treatment options for FMS that are physiotherapy, medication (antidepressants and analogics), integrated group therapy for FMS patients (IGTF) [30], relaxation techniques, and exercise [8].

Consultations were scheduled in advance to provide equal consultation times for patients of all groups and parallelize the amount of attention received. Assessment of all patients took place thrice: at the first consultation (T1), at a 3 months follow-up (T2) and at a 1 year follow-up (T3). Assessment of doctors of the randomized groups was at T1 and T2, only for SDM doctors additionally at T3. The comparison group doctors were only assessed at T1.

Patients were informed on the intervention but they were blinded to the fact in which group they were being treated. A blinding of the physicians was not possible due to the nature of the intervention demanding an active procedure. But physicians were blinded with regard to evaluation strategies.

The study was approved by the ethical board of the University of Heidelberg.

2.2. Interventions

The core intervention tested in the study was SDM. It was received by the SDM group and comprises the two modules: (1) provision of medical information for patients and (2) treatment by an SDM-trained physician. The information group was an attention parallelized control group that also received the information tool but was treated by untrained physicians.

A non-randomized control group received treatment as usual.

The two modules of the intervention are described below in detail.

2.2.1. Module 1: computer-based visualized information tool on FMS

We developed a computer-based visualized information tool on FMS for patients which informs about common symptoms, diagnosis, pathogenesis, treatment options, and prognosis of FMS. The information tool combines text information with diagrams. Short video sequences are used for additional illustration. It was designed in accordance with DISCERN criteria (the first standardized index of quality of consumer health information) and certified by AFGIS (a German quality standard for medical websites in the internet). An evaluation [31] showed that the users’ acceptance was high among FMS patients, although they had often no habit of using computers. All patients received a short introduction to the handling of the information tool. 93% found the tool “very informative” or “informative”, 89% found the handling “simple” or “rather simple” and 88% judged it to be “very useful” or “useful” for application in physicians’ offices.

2.2.2. Module 2: SDM communication training for physicians

We enrolled physicians in a specific training program to ameliorate their patient-centered communication and interaction skills and to enable them to perform SDM. The training consists of 12 lessons each over 1.5 h and has been described before [32]. Its main focus is on building a good working alliance with the patient by analyzing deliberate as well as unconscious signals of verbal and non-verbal communication, reflecting, and adequately reacting to them. Patients’ subjective illness concepts and the handling of emotional issues find consideration. Techniques of exploration, of coping with difficult situations, and of inviting the patient into the decision-making process are practiced in role plays.

2.3. Measures

To evaluate our interventions we decided for a combined quantitative and qualitative approach, taking into account patients’ as well as doctors’ perspectives. We assumed that an additional qualitative approach would provide us with more detailed information on physician–patient interaction, coping behavior, and the decisional process.

2.3.1. Qualitative approach

Doctors of the randomized groups filled in a structured protocol after each patient contact (at T1 and T2, SDM doctors additionally at T3) recording content and interaction details of the consultation. All consultations were additionally taped in order to assess treatment adherence.

Patients of the SDM group and of the information group received a semi-standardized interview twice (T2 and T3) by an independent investigator. The interview covered aspects of physician–patient interaction, perceived involvement in the decision-making process, wish for involvement, subjective illness concepts, and coping behavior. The interviews were all recorded in writing and the independent investigator additionally wrote a protocol of his impression of the interview.

2.3.2. Quantitative measures

Patients completed questionnaires at the initial consultation (T1), at a 3 months follow-up (T2) and at a 1 year follow-up (T3).

To assess our primary outcome variable – the physician–patient interaction from patients’ and physicians’ perspective – we used two different questionnaires: For the patients’ perspective we developed and validated a 14-item questionnaire on doctor–patient interaction (FAPI) [33], due to the fact that at present there is no adequate German instrument with sufficient psychometric properties. The FAPI shows correlation of $r = 0.53$ with overall assessment of quality of health care, high internal consistency (Cronbach’s alpha = 0.96), and is independent of the doctors’ rating of patient satisfaction ($r = 0.12$). The
questionnaire deals with the adequate imparting of information, involvement in medical decisions, and the feeling of being taken serious by the doctor. It features items such as “The physician’s explanations were easily comprehensible” or “The doctor asked about how my illness affects my everyday life”.

To assess physician–patient interaction from the doctors’ perspective all participating clinicians completed the German version of the difficult doctor patient relationship questionnaire (DDPRQ) [34,35] after each patient contact. The DDPRQ addresses aspects of physician–patient interaction that may cause unease and distress to the physician.

Secondary outcome measures were those related to the decision-making process and a number of health related measures. To evaluate the results of the decision-making process from the patients’ perspective the satisfaction with decision scale (SWD) [36] and the decisional conflict scale (DCS) [37] were applied. The SWD focuses on the results of the decision-making process, while the DCS examines aspects of the decision-making process itself.

We also assessed directly health related variables illustrating the severity of disease. Patients completed a visual analogue scale (VAS) for pain intensity, the Hannover Functional Questionnaire (FFbH) [38], the center for epidemiological studies depression scale (CES-D) [39], and the first item of the short-form 36 (SF-36) as a measure of general health status [40].

2.4. Sample

FMS patients that had their first consultation in the rheumatological outpatient clinic of the University of Heidelberg were recruited for the study. Recruitment took place from January 2002 until January 2003 and a 1 year follow-up was completed in January 2004.

Altogether 164 patients were asked for their approval to participate in the study. 149 of them agreed and were randomized but 48 of them did not meet inclusion criteria at the first consultation (no diagnosis of FMS, severe comorbidity, cancelled appointment due to a too long waiting period) and 16 refused to complete questionnaires. Altogether 85 randomized patients received the intervention and completed the baseline questionnaires (SDM group: 44, information group: 33). Of these patients complete data for all three assessment points was present in 67 (SDM group: 34; information group: 33) with a 1 year follow-up rate of 78.8%. These patients with complete data were analyzed in this study.

In addition 48 non-randomized patients of an office setting were consecutively recruited and enclosed in the study. Data was complete for 44 of those for all three assessment points.

Thirteen doctors participated in the study with four treating the SDM group, six treating the information group, and three treating the comparison group. The ten doctors treating the randomized groups were comparable with regard to their characteristics and professional experience: They were 30.7 years old (S.D. 2.7), 50% of them were female, they had 2 years of working experience (S.D. 0.9), and were all specializing in internal medicine.

2.5. Qualitative and statistical analysis

For the qualitative approach physicians’ protocols, patients’ interviews and protocols of the independent investigator derived from the two randomized groups (SDM group and information group) were analyzed according to the Grounded Theory [41,42] and content analysis [43]. All protocols were paraphrased, categorized, and coded. The results of this analysis were derived from patients’ and physicians’ perspectives and an additional triangulation [44] was reached by comparing the independent investigators’ impression with that of the physicians. This approach was taken to reach a comprehensive understanding of the matter of investigation.

For the quantitative approach two-way ANOVAs for repeated measurements (with the group as independent factor and time as repeated factor) were calculated for the two randomized groups to compare the intervention effects on the main outcome variable – physician–patient interaction (FAPI and DDPRQ). As post hoc analysis, a two-way ANCOVA for repeated measurements was calculated to compare the SDM group and the comparison group.

Depression was included as covariate due to presumptions of differences between secondary and tertiary care settings with regard to psychiatric comorbidity [34,45] and baseline differences between the randomized groups and the comparison group (p < 0.05).

To compare the three groups regarding the secondary outcome measures (patients’ satisfaction with decision, decisional conflict, pain intensity, depression, functional capacity, and general health status) two-way ANCOVAs for repeated measurements were calculated including depression as covariate. In case of significant group or interaction effects, post hoc-contrasts were calculated for each assessment point in order to determine which assessment points showed significant differences between the two groups. All analyses were carried out according to the intention to treat method.

3. Results

All three patient groups were comparable as to socioeconomic (see Table 1) and health related variables (see Table 3) except for lower depression scores in the comparison group (t = −2.12, p < 0.05) at baseline.

3.1. Realization of SDM

The qualitative assessment of the two randomized groups allowed us to investigate how decisions had been made, and
how patients of both groups felt about being involved in decisions. Physicians of the SDM group stated that at the first consultation they had been able to involve 74% of the patients in SDM. Of the remaining patients two had been treated paternalistically because they had not wished to participate in the decision. Another two had quickly agreed to the doctor’s treatment suggestions. Two more had been so difficult to reach that no effectual agreement had been made. Another two were so knowledgeable and experienced that doctors could only confirm them in the treatment they were already receiving.

At the 1 year follow-up 88% of the SDM group patients retrospectively stated that they had actively participated in treatment decisions and found this approach preferable to other interaction styles. Only 42% of the information group patients suspected that they had somehow been involved in decisions, 29% were not sure about any involvement, and 21% were sure they had not been involved.

### 3.2. Quality of physician–patient interaction

We looked at the primary outcome measure – the quality of physician–patient interaction – from a quantitative and qualitative perspective and ascertainment patients’ as well as doctors’ appraisal.

Table 2

Primary outcome measures: quality of physician–patient interaction

– from patients’ perspective: FAPI (questionnaire on doctor–patient interaction);
– from physicians’ perspective: DDPRQ (difficult doctor–patient relationship questionnaire)

<table>
<thead>
<tr>
<th>Randomized intervention groups</th>
<th>ANOVA with repeated measurements; SDM vs. information group</th>
<th>ANCOVA with repeated measurements; SDM vs. comparison group (post hoc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDM group</td>
<td>ANOVA with repeated measurements; SDM vs. information group</td>
<td>ANCOVA with repeated measurements; SDM vs. comparison group (post hoc)</td>
</tr>
<tr>
<td>Mean</td>
<td>S.D.</td>
<td>Mean</td>
</tr>
<tr>
<td>FAPIb T1</td>
<td>4.11 (0.7)</td>
<td>3.59 (0.7)</td>
</tr>
<tr>
<td>T2</td>
<td>4.05 (0.7)</td>
<td>3.67 (0.8)</td>
</tr>
<tr>
<td>T3</td>
<td>3.80c (0.8)</td>
<td>3.13c (0.7)</td>
</tr>
<tr>
<td>DDPRQ T1</td>
<td>29.4 (5.8)</td>
<td>33.5 (10.0)</td>
</tr>
<tr>
<td>T2</td>
<td>28.9 (6.7)</td>
<td>32.2 (6.5)</td>
</tr>
<tr>
<td>T3</td>
<td>30.7 (5.6)</td>
<td>38.4 (7.2)</td>
</tr>
</tbody>
</table>

T1: first consultation; T2: 3 months follow-up, T3: 1 year follow-up.

a Adjusted for depression (there were no significant main and interaction effects for depression).
b High values = high quality of physician–patient interaction.
c Significantly lower compared to the FAPI value at the initial consultation (p < 0.05).
Table 2 and Fig. 1 show the mean scores of patients’ appraisal of interaction quality (measured by FAPI): An ANOVA for repeated measurements comparing the SDM group with the information group revealed that patients’ appraisal of the interaction quality was higher in the SDM group. Subsequent contrast analyses showed that this was the case for all three assessment points (T1: $t = 3.02$, d.f. = 61, $p < 0.01$, effect size = 0.74; T2: $t = 2.09$, d.f. = 61, $p < 0.05$, effect size = 0.51; T3: $t = 3.51$, d.f. = 61, $p < 0.001$, effect size = 0.89). There was a significant time effect indicating that FAPI scores went down during 1 year in both groups. However, there was no interaction effect between time and group which implies that the difference between the two randomized groups remained constant.

An ANCOVA comparing the SDM-group with the comparison group revealed that patients of the comparison group judged the interaction quality to be significantly lower at all three measurement points than did patients of the SDM group. Significant interaction between time and group indicates that the difference between the two groups regarding interaction quality was reduced after 1 year.

Table 2 also shows the mean scores of the doctors’ appraisal of interaction quality (measured by DDPRQ). An ANOVA comparing the consultations of the SDM group with those of the information group revealed significant group effects. This implies that doctors of the SDM group stated interaction with their patients to be less difficult than did the information group doctors. The difference between the two randomized groups regarding the difficulty of the physician–patient interaction remained constant over time. An ANCOVA comparing the SDM group with the comparison group revealed significantly lower DDPRQ-scores for the SDM group, indicating that doctors of the SDM group reported less difficulties than those of the comparison group.

The semi-standardized interviews of the independent investigator confirmed these results and were able to shed some light on the reasons for the better quality of interaction in the SDM group. The share of satisfied patients was high in both randomized groups with 79% in the SDM group and 64% in the information group. In contrast to the information group patients of the SDM group could state differentiated causes for their satisfaction. They related that they had felt understood, listened to, believed, and contained by their doctors whereas patients of the information group only stated a general satisfaction. The provision of information had been important to both groups. Patients of both randomized groups underlined that acceptance by the doctor had been most important for them before time and medical knowledge of the doctor. When asked whether open questions had remained after the consultation only patients of the SDM group said that more than usual had been covered.

Qualitative analysis of the physicians’ protocols revealed more details on their perspective, too. Doctors of both randomized groups were able to realistically estimate their patients’ satisfaction with treatment, which was lower in the information group. The SDM doctors had less negative feelings about their patients such as being aggravated or unconcerned, feelings which were often stated by information group doctors. Whereas information group doctors often described interactions as straining and rarely as pleasant, SDM doctors described less interactions as straining and found some of them nevertheless pleasant at the same time. Physicians treating the SDM group were capable to make more differentiated statements on their patients’ attitudes and subjective condition than doctors of the information group.

### 3.3. Satisfaction with decision and decisional conflict

Table 3 presents the results on decisional measures: At the first consultation as well as after 3 months (T2) and after

<table>
<thead>
<tr>
<th></th>
<th>SDM group</th>
<th>Information group</th>
<th>Comparison group</th>
<th>ANCOVA with repeated measurements$^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
<td>Mean</td>
<td>Mean</td>
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<tr>
<td>SWD</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>T1</td>
<td>4.11</td>
<td>0.4</td>
<td>4.02</td>
<td>0.6</td>
</tr>
<tr>
<td>T2</td>
<td>4.10</td>
<td>0.6</td>
<td>4.07</td>
<td>0.6</td>
</tr>
<tr>
<td>T3</td>
<td>4.11</td>
<td>0.4</td>
<td>3.81</td>
<td>0.7</td>
</tr>
<tr>
<td>DCS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1</td>
<td>12.9</td>
<td>4.2</td>
<td>12.4</td>
<td>3.7</td>
</tr>
<tr>
<td>T2</td>
<td>12.8</td>
<td>3.0</td>
<td>12.5</td>
<td>3.4</td>
</tr>
<tr>
<td>T3</td>
<td>13.8</td>
<td>2.7</td>
<td>13.8</td>
<td>3.5</td>
</tr>
</tbody>
</table>

$^a$ Adjusted for depression (there were no significant main and interaction effects for depression).

T1: first consultation; T2: 3 months follow-up, T3: 1 year follow-up.
1 year (T3) patients of both, SDM group and information group, showed more satisfaction with decisions (SWD) than comparison group patients. An ANCOVA revealed that the satisfaction with decision remained constant over time for all groups. The results for decisional conflict were similar. At all three measurement points decisional conflict (DCS) was lower in both randomized groups than in the comparison group. The level of decisional conflict did not significantly change over time.

3.4. Health related outcome and treatment success

Table 4 presents directly health related outcome measures from the patients’ perspective. ANCOVAs on pain intensity, functional capacity, and general health status revealed no significant effects. All three groups were comparable and remained unchanged during the follow-up period regarding these indices of physical health. A significant time effect occurred for depression indicating improvement of mood in all three groups at a similar degree.

However the qualitative analysis revealed that the majority of patients of both groups classified treatment as successful though their symptoms had not been reduced. Some patients stated it was a relief to achieve pain reduction during administration of a therapeutic procedure though pain would usually rise again soon to meet the former level.

3.5. Coping

The qualitative assessment revealed that at the 1 year follow-up more patients of the SDM group (62%) than of the information group (28%) stated their coping with pain had improved. Patients of the SDM group had often found a different way of dealing with pain and reported that they take better care of themselves. They did not wait any more until pain had become unbearable before taking counteractive measures. Patients of the SDM group adopted a more positive view when thinking of the future with the illness. They had developed more activity in treatment and they also had more active treatment plans for the future.

4. Discussion and conclusion

4.1. Discussion

The quantitative and qualitative results of this study concordantly corroborate our main hypothesis that treatment in accordance with SDM principles ameliorates the physician–patient relationship for FMS patients and doctors equally. The aspect of providing information [31] was also very helpful for the quality of interaction. But to achieve best results concerning physician–patient interaction, an SDM communication training was necessary. One aspect of the high overall satisfaction in both randomized groups could possibly have been achieved by the provision of the computerized information, since patients might have felt they were given increased attention. Therefore our study design aimed at parallelizing the amount of attention patients received by giving the information tool to both randomized groups. Although both randomized groups received an equal amount of attention the SDM group was most successful.
An important finding is that the superior effects of the SDM intervention could be maintained throughout the follow-up period of 1 year. However best results for both randomized groups were found directly after the interventions, maybe because hope for symptom improvement was induced by the provision of information that did not materialize after a year.

Doctors could also profit from the SDM intervention because it reduced their interaction difficulties with their patients. The SDM communication training provided them with skills to explore their patients’ attitudes and illness beliefs. Diverging subjective illness concepts are common among doctors and their patients, can complicate communication, and cause distress [20]. Recognizing these notions in their patients allowed SDM doctors to find some shared understanding with them. This may be a way to partly prevent patients’ unrealistic treatment expectations and to avoid later disappointment. A better understanding of the patients’ situation could have increased the physicians’ willingness to be emphatic and to avoid taking their patients’ disappointment and irritation personal. This demeanor is a prerequisite for stopping the negative spiral of physician–patient interaction [46].

SDM did not positively influence health related outcome variables as one might have hoped, but this effect occurred in a comparable study, too [47]. There were no differences between the three groups in typical intensity of pain, functional capacity, depression, and general health status at the 1 year follow-up. One rationale for the nonexistent effects of SDM on disease outcome might be the postulated professional equipoise (equality from professionals’ perspective) of treatment options that was the prerequisite for SDM in this patient population. The aim of SDM is not so much a direct influence on somatic outcome but a reduction of frustration and disappointment in physician–patient contacts.

However, little to no change in symptoms occurred at all throughout treatment in any of the groups except that depression decreased over time in all groups. This decrease in depression might result from treatment or from an adaptation to the illness.

On the one hand the stability of pain might be due to a very general assessment of this variable, because our qualitative results indicate that patients felt they could control their symptoms temporarily.

On the other hand the relative stability of symptoms in FMS might not come as a surprise to physicians familiar with the treatment of FMS patients [16,48,49]. Our results underline again that FMS is a disease in which not much is to be gained when one merely aims at a lasting reduction of symptoms. Still physicians often feel they have nothing to offer to FMS patients [4] if they cannot offer them persistent pain reduction. With this in mind the high patient satisfaction in the SDM group as a main result of our study becomes even more important. It seems indeed astonishing that patients are satisfied with their doctors despite an only marginal improvement in symptoms. However our findings are in line with a study reporting that FMS patients felt it easier to cope with their symptoms when their physicians were empathic and good listeners [50]. Dobkin et al. [4] points out that patients wish for both care and cure but are willing to settle for the former when the latter is not forthcoming. Our qualitative results support that FMS patients of the SDM group felt accepted, listened to and contained by their doctors and this might partly explain their satisfaction.

These positive findings in most variables for the two randomized groups contrast with negative findings in the comparison group. Differences between both randomized groups and the comparison group can only be interpreted cautiously since a setting difference between university outpatient clinic and rheumatological practice might partly be reflected. However one cannot ignore that FMS patients receiving treatment as usual had the most negative view on physician–patient interaction, showed considerably more decisional conflict, and less satisfaction with decision. In the face of superior results of the information group over the comparison group positive effects of the information tool can be suspected. For a mere reduction of decisional conflict and a good satisfaction with decision the provision of an information tool might even be sufficient. Further randomized trials are needed to answer this question. However, the best impact on the disturbed physician–patient interaction in FMS – as main objective of our study – could only be reached by addition of an SDM communication training to the information tool.

A limitation of our study is that it took place in a tertiary and secondary care setting which limits its generalizability to primary care.

4.2. Conclusion

Treatment in accordance with SDM principles can lead to an improved physician–patient relationship from the patients’ and from the doctors’ perspective. An SDM intervention has no influence on health related measures, but it can ameliorate coping in FMS patients and encourage them to adopt more active treatment plans.

4.3. Practice implications

It might be considered to include SDM in standard care for FMS patients. Physicians frequently treating FMS patients should at least be familiar with the basic principles of SDM, and their enrollment in an SDM communication training is desirable.

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