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# Doctor–patient communication and patient satisfaction: a review

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## Introduction

Many studies of doctor–patient communication have been carried in order to investigate which communication behaviours of the doctor (and less frequently of the patient) are significantly related to patient satisfaction. This article reviews the literature in this area of research. However, since there are a large number of studies in this field, the review is limited to: publications in English; studies of general practice/out-patients, which excludes studies of hospital in-patients and consultations with only psychiatric patients; and studies of verbal behaviours, which excludes findings on relationships between non-verbal behaviours and patient satisfaction. The country of origin of each study is reported, owing to the fact that different countries have different health care systems.

The literature search was conducted through Medline, BIDS, Psychlit (using on-line database searches), manual searches of relevant journals and cross-checking with the bibliographies of previously published reviews and original articles. This literature reviews reports on studies of how far the following doctor and patient communication behaviours are related to patient satisfaction:

- information provision by the doctor and/or patient (both in terms of general information provision and information on specific topics)
- information-seeking behaviours of doctors and patients;
- the doctor–patient relationship and expression of negative or positive affect by doctor and patient;
- the communication style of the doctor.

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## Information provision/seeking and patient satisfaction

Many studies have investigated how far the doctor's level of information provision, information seeking and communication skills during consultations are related to patient satisfaction. Investigators have looked at whether the amount of information provided by the doctor, in general, and discussion of specific topics, in particular (e.g. aetiology, psychosocial information) is associated with differences in patient satisfaction. There have also been investigations into how far patient information provision/seeking in general and during specific parts of the consultation (e.g. during the patient history-taking segment) is related to patient satisfaction. Table 1 summarizes statistically significant findings on the relationships between doctor and patient information provision/seeking, discussion of topics during consultations and patient satisfaction.

Provision of information by doctors has been found to be positively related to patient satisfaction. In an early study, a modified version of the Bales system[1] was used to analyse 285 audiotapes of paediatric consultations.[2–5] Parental satisfaction ratings were obtained through follow-up interviews. The results showed that the higher the information provision of the physician, the higher the parental satisfaction.

However, limitations of this series of studies include the use of the Bales system for interaction analysis. First, the coding method involves the units that are classified into one of 12 mutually exclusive categories A unit can be as short as a single word or as long as a lengthy sentence. By this method only the frequency of verbal behaviours can be calculated. Therefore, when classifying a doctor's information provision, for example, a doctor making a high number of information statements of little duration could be classified as being the same as a doctor making a high number of information statements of extensive duration. The use of word counts would allow for a more accurate assessment of time allocated to discussion of different topics. Another weakness of the Bales method is the treatment

TABLE 1 *Significant findings of relationships between information provision/seeking during medical encounters and patient satisfaction*

| Study | Interaction analysis coding system/method | Information provision/seeking doctor | Information provision/seeking patient |
|---|---|---|---|
| Korsch *et al.* (1968) (USA)[2] | Method developed for use in study | Understand parent's concern (+)<br>Good communication skills (+) | |
| Freemon *et al.* (1971) (USA)[4] | Bales | Time talking history (−)<br>Informativeness (+)<br>Discussion of cause of problem (+)<br>Questioning (−) | Talking more than doctor (−)<br>Expressed agreement and understanding (+) |
| Korsche and Negrete (1972) (USA)[5] | Bales | Understanding of mother's concerns (+) | |
| Roter (1977) (USA)[8] | Method developed for use in study | | Increased question asking after experimental intervention (−) |
| Stiles *et al.* (1979) (USA)[9] | Stiles | Doctor freely informed patient about illness and treatment at end of interview (+) | Explained condition in own words during medical history (+) |
| Cornstock *et al.* (1982) (Mexico)[6] | Method developed for use in study | Provision of information (+)<br>Listening behaviour (+) | |
| Inui *et al.* (1982) (USA)[10] | Bales | | Gives orientation (+)<br>Acknowledgement (disclosure) (+) |
| Carter *et al.* (1982) (USA)[11] | Bales | Physical: Gives orientation (+) | Overall: Gives orientation (+) |
| | Roter | Physical: statements (+) | History, physical, concluding: request for medication (+) |
| | Stiles | | Overall: Acknowledgement (disclosure) (+)<br>History: Acknowledgement (disclosure) (+)<br>Disclosure (disclosure) (−) |
| Roter *et al.* (1988, 1989a, 1989b (USA)[12–14] | Meta-analysis of 60 studies | Information provision (+)<br>Increased communication (+) | |
| Williams (1991) (UK)[15] | Retrospective questionnaire study | Information provision (+)<br>Spends enough time with patient (+)<br>GP's medical skills (+) | |
| Bensing (1991) (The Netherlands)[16] | Roters (modified) | Psychosocial information provision (−) | |
| Robbins (1993) (USA)[17] | Davis Observation Code | Time spent on health education, examination and treatment (+)<br>Time spent on history taking (−) | |
| McCann and Weinman (1996) (UK)[18] | Method developed for use in study | | Increased question asking after experimental intervention (no relationship) |

of information transfer, that is the transferral of information from the patient to the doctor and the transferral of information to the patient from the doctor. With this system there is a difficulty in categorizing statements that involve both information transfer and affective components. For example, a patient asking in anxiety "So you can't help me?" could be classified as "asks for opinion" or "shows tension". Hence the problem is that the system does not allow for classification of the occasions on which both content and relationship level are present in a single statement. This can result in potentially meaningful data remaining uncoded. A further limitation of this study is the failure to use a previously validated and reliable satisfaction questionnaire to measure parental satisfaction.

Cornstock and colleagues[6] also reported a significant relationship between physicians' information provision and patient satisfaction. They used a sample of 150 patients who were attending one of 15 physicians in a general medicine out-patient clinic. An observer coded the physicians' behaviour with a 30-item checklist developed for the study. Patients completed a 23-item satisfaction questionnaire.[7] The results of correlations indicated that patient satisfaction correlated highly with information-giving by the doctor.

Information provision by doctors was also found to be positively related to patient satisfaction in a meta-analysis of 60 independent studies of doctor–patient communication.[12-14] There were over 200 communication process variables identified in the studies selected, and these were grouped into six conceptual categories, including information provision. Satisfaction was found to be best predicted by the amount of information provided by the doctor during consultations. Satisfaction was also positively related to increased communication overall. However, this meta-analysis included studies that were of health care professionals from specialities other than primary care, and also those with differing experience, from medical students to senior physicians. This presents a difficulty in knowing to whom the results of the meta-analysis apply.[19]

Information provision to patients by doctors has also been found to be positively related to patient satisfaction in another study.[15] A self-completion questionnaire was sent out to a random sample of 735 adults. The results of correlations between various aspects of health care and overall satisfaction with the GP for the 454 respondents indicated that the provision of enough information and advice, spending sufficient time with the patient and good medical skills were positively related to satisfaction.

However, there have been mixed findings on the relationships between the topics of information provision/discussion during consultations and patient satisfaction. Negative relationships were found between doctors' information provision (especially psychosocial information) and patient satisfaction.[16] In this study, 103 general practice consultations with hypertensive patients were videotaped and coded using Roter's Interaction Analysis System.[8] Patients completed a satisfaction questionnaire after the consultation. Raters also assessed the psychosocial care of the GPs. The results of correlations between GP behaviours and patient satisfaction indicated a significant negative correlation between psychosocial information giving and patient satisfaction. However, a limitation of this study is that the author did not measure the underlying mood state of the patients prior to the consultation. The provision of psychosocial information to patients with underlying mood disturbance may have led to higher satisfaction rates.

Information provision by doctors specifically during the examination has been found to be related to increased patient satisfaction.[11] The Bales Process Analysis system,[1] Roter's Interaction Analysis system[8] and Stiles' Verbal Response Modes[20] were used to examine relationships between interaction behaviours during consultation and patient satisfaction during 101 new patient visits to a general medical clinic. The authors explored specific physician and patient behaviours within segments of the encounter (introduction-history, physical examination and conclusion) in relation to satisfaction. The results indicated that doctor "gives orientation" (i.e. information, repeats, clarifies, confirms) and the doctor's use of statements (i.e. gives information, opinion) during examination were both positively related to satisfaction.

Information provision by doctors during the concluding section of the consultation has also been found to be positively associated with patient satisfaction.[21] The sample included 53 new patients attending to consult with one of 19 physicians at a university hospital screening walk-in clinic, presenting with primary care problems. The consultations were audio-taped and analysed using Stiles' Verbal Response Modes.[20] The patients completed a satisfaction questionnaire after the visit.[22] The results of correlations indicated that 'feedback' exchanges in which the physicians gave the patient feedback about their illness during the conclusion section was positively associated with patient satisfaction.

In contrast, time spent on patient history has been found to be associated negatively with patient satisfaction. In a study of 285 paediatric consultations, Freemon and colleagues[4] used a modified version of the Bales[1] system. Parental satisfaction ratings were obtained through follow-up interviews. Despite the fact that the results of chi-square analyses revealed that the physician's discussion of the cause of the patient's problem was positively related to satisfaction, the time devoted to history-taking correlated negatively with satisfaction. The amount of discussion regarding the examination, diagnosis, treatment, seriousness or prognosis did not correlate significantly with satisfaction.

A negative relationship between patient satisfaction and time spent on history taking has also been reported

in a more recent American study of 100 adult primary care patients.[17] In this study patients completed a modified version of the visit specific questionnaire[23] as a measure of their satisfaction after their appointment. The consultations were videotaped and coded using the Davis Observation Code (DOC).[24] However, contrary to Freemon and colleagues,[4] satisfaction was found to be positively related to time spent on health education, physical examination and discussion of treatment effects. A limitation of this study is that patient and doctor contributions to the interaction were not classified separately, so it is not possible to know if, for example, the more time the patient spent talking about their history, the higher the satisfaction rate.

Information provision by patients during the medical history, however, has been found to be related to higher satisfaction.[21] Patient 'exposition' exchanges during the medical history (i.e. the patient describes their illnesses and circumstances in their own words) were positively associated with satisfaction.

Conversely, a later study revealed that patient information provision during medical history was negatively associated with patient satisfaction. Carter and colleagues[11] carried out a multiple regression analysis on the data used by Inui and colleagues[10] with the addition of dividing the consultation into three segments: introduction-history, physical examination and conclusion. The results of stepwise multiple regression analysis with the Stiles system indicated that patient "disclosure (disclosure)" behaviours (i.e. revelation of the speaker's private thoughts, feelings, wishes, perceptions and intentions) in the history segment were negatively related to satisfaction.

However, the method of dividing the consultations in this study can be criticized, since discussion of a patient's history can take place at any point during the consultation sequence. The 'history segment' began with the first verbal event recorded and ended at the onset of the examination. Therefore, if the doctor or patient talked about the medical history after the examination, this would not be classified. In a study of 88 primary care consultations, it was reported that in 21% of consultations, patients introduced new problems not previously discussed at the close of the interview.[25] Another limitation is that analysis of sections on diagnosis and treatment may have provided more detailed information than would a general 'conclusion' segment.

Information provision by patients in general has been found to be related to satisfaction.[10] The results indicated that patient "gives orientation" (i.e. information, repeats, clarifies, confirms) was positively related to satisfaction. Patient "acknowledgement" (disclosure) [i.e. non-lexical utterances ("mm-hm") or contentless utterances ("yes", "no", "hello")] were also positively related to satisfaction.

Nevertheless, findings have indicated that excessive talking by patients is negatively related to satisfaction. In the early study by Freemon and colleagues[4] it was found that mothers who tended to dominate the conversation and talk more than the doctor expressed less satisfaction with their visit.

In terms of relationships between the doctor's use of questions and patient satisfaction, less excessive questioning has been reported to be positively associated with parental satisfaction.[4] However, the use of certain types of questions by doctors has been found to be positively related to patient satisfaction by Cornstock and colleagues.[6] In this study of 150 patients attending one of 15 physicians in a general medicine out-patient clinic, the results showed that listening by the doctor (which included using open-ended questions, eliciting details and giving the patient an opportunity to ask questions) was positively correlated with patient satisfaction.

Patient question-asking has also been found to be negatively related to satisfaction. In an intervention study, 294 patients attending one of three physicians at an out-patient general medical clinic of a hospital, were randomly assigned to either an experimental group, a placebo group or a non-randomized control group.[8] The experimental group received a 10-minute session with a health educator prior to the consultation, who worked through a question-asking protocol to identify questions the patient may have in relation to their illness. The placebo group received a 10-minute standard health education programme. Both the placebo and experimental groups had their consultations audiotaped, and the consultations were analysed using a method developed for use in the study. All three groups completed a satisfaction questionnaire after their visit. The results revealed a significant difference between the experimental and placebo group for the number of direct patient questions asked during the consultation. Contrary to the hypothesis, the experimental group was significantly less satisfied with care received during the visit than the placebo group was. The experimental group interactions were also characterized by negative affect, anxiety and anger, and patients viewed the doctor as less sympathetic, while the placebo group's interactions were characterized as mutually sympathetic. The authors concluded that physicians may need preparation for an increased active role of patients during medical encounters.

In a more recent randomized control trial of 120 adult primary care patients attending to one GP, there were no reported negative effects of encouraging patients to ask questions during their consultations.[18] The intervention consisted of a modified leaflet,[26] which asked the patient to "identify the nature of their problems and to consider their ideas as to the causes, treatment and effects" of their presenting problem/s. Patients could write down their ideas and were encouraged to raise their concerns during the consultation. A control leaflet was administered to the randomly selected comparison group. Patients completed the Medical Interview

TABLE 2 *Significant findings of relationship/affect factors during medical encounters that are associated with patient satisfaction*

| Study | Interaction analysis system | Relationship/affect doctor factors | Relationship/affect patient factors |
|---|---|---|---|
| Korsch *et al.* (1968) (USA)[2] | Method developed for use in study | Friendly as opposed to business-like (+) | |
| Freemon *et al.* (1971) (USA)[4] | Bales | Doctor friendly and approving (+)<br>Negative Tone (−)<br>Social talk (+) | Negative tone (−) |
| Friedman *et al.* (1980) (USA)[27] | Method developed for use in study | Physicians who communicate negative affect when trying to convey positive affect (−) | |
| Hall *et al.* (1981) (USA)[28] | Method developed for use in study | Negative doctor affect expressed in voice tone with positive affect communicated through words (+) | |
| Cornstock *et al.* (1982) (Mexico)[6] | Method developed for use in study | Courteous behaviour (+) | |
| Inui *et al.* (1982) (USA)[10] | Bales | Tension in tone (−) | Tension in tone (−) |
| | Roter | | Anxiety-nervousness (−)<br>Assertiveness (−) |
| Carter *et al.* (1982) (USA)[11] | Bales | Overall: Shows tension (−) | Overall: Shows tensions (−) |
| | | History: Shows tension (−) | History: Shows tension (−)<br>Shows tension release (+) |
| | | Physical: Shows antagonism (−) | |
| | | Concluding: Shows antagonism (−) | |
| | Roter | | Overall, History, physical:<br>Anxiety (−)<br>Nervousness (−)<br>Assertiveness (−)<br><br>Concluding: Anxiety-nervousness (−) |
| Wasserman (1984) (USA)[29] | | Encouraging and empathic behaviours (+) | |
| Roter *et al.* (1988, 1989a, 1989b) (USA)[12-14] | Meta-analysis | High social talk (+)<br>Positive non-verbal behaviour (+)<br>Partnership Building (+)<br>Positive tak (+) | |
| Williams (1991) (UK)[15] | Questionnaire survey | GP not taking problem seriously (−) | Like GP as person (+)<br>Faith in doctors (+) |
| Bensing (1991) (The Netherlands)[16] | Roter | Anger (−)<br>Disagreements (−) | |

Satisfaction Scale[22] and doctors completed a rating scale (on their understanding of the patient's problem, and feelings of anger and sympathy towards the patient) immediately after the consultation. All consultations were audio-taped and 'blind' counts were made of the number of direct questions asked by the patients. Results showed that patients receiving the intervention had significantly longer consultations than did the controls. There was a non-significant trend for the intervention group to ask more questions but no significant differences for satisfaction. There was a trend for higher understanding by the doctor of the patients' problem in the intervention group. The authors, however, do state that these results should be regarded as preliminary, since they were obtained from a single sample of patients consulting with one GP.

## Relationship/affect and patient satisfaction

Studies have investigated how far the relationship between doctor and patient (e.g. the degree of friendliness) or feelings expressed in terms of positive or negative affect (e.g. tension in tone) during the consultation relate to patient satisfaction, and the findings are summarized in Table 2.

The personal manner of the doctor during consulting has been found to be related to patient satisfaction. In the large-scale study of 800 paediatric consultations Korsch and colleagues[2] found that a greater proportion of the parents who thought of their physician as being friendly reported being satisfied after the visit than did those who considered the physician to be business-like in manner.

The positive relationship between physician friendliness, social conversation and patient satisfaction has been reported in another of this series of studies. Fremon and colleagues found that patterns of communication in which physicians were friendly and approving (high in expressing positive affect) and engaged in social non-medical conversation were positively associated with parental satisfaction. An increasingly negative tone by either the patient or the physician was associated with increased levels of dissatisfaction. In the study by Cornstock,[7] politeness in greeting patients and ending the consultation in physicians was also found to be related positively to patient satisfaction.

The expression of negative affect has been shown to be negatively related to patient satisfaction in other studies.[10,11] Inui and colleagues[10] found that tension in the tone of either the doctor or patient was negatively related to satisfaction. Patient anxiety–nervousness was also negatively related to patient satisfaction. Carter and colleagues[11] found that the patients or doctors showing tension during the discussion of patient history was negatively related to satisfaction. The patient's showing tension release (i.e. jokes, laughs, shows satisfaction) during patient history was positively related to satisfaction. The doctor's showing antagonism during either the physical examination or concluding part of the consultation was negatively related to satisfaction.

The expression of negative affect by doctors has also been reported to be negatively correlated with patient satisfaction in a more recent Dutch study of 103 hypertensive primary care patients.[16] The results indicated a significant negative relationship between expressions of disagreements or anger by the doctor and patient satisfaction.

The doctor's tone of voice has been found to be related to satisfaction.[27] Twenty-six hospital physicians were asked to pretend that the interviewer was a patient and to use his or her tone of voice to express four emotions: happiness, sadness, anger and surprise while saying each of three affectively neutral statements. The communications were videotaped and rated by 34 undergraduates for accuracy of communication of the emotion. Each physician was evaluated by approximately seven of his or her own patients, who rated the physician on his/her ability to establish an effective socio-emotional component in the physician–patient relationship. The results of analyses showed that communication of negative affect (anger or sadness) when trying to express positive affect (happiness or surprise) in physicians was negatively correlated with patient satisfaction. However, a limitation of this study is the fact that the assessment of the physicians' communication behaviours was carried out in a simulated experimental context and not during actual consultations with patients.

Conversely, negative doctor affect has also been found to be related to increased patient satisfaction.[28] The audiotapes of 50 patients attending one of two physicians at a family and community health centre outpatient clinic were rated by 144 students. Patient attitudes towards the physicians were obtained from their responses to scales. A total of three short clips of speech were selected from the middle of the first, second and third section of the consultation and the speech was filtered so that words could not be understood, but intonation, contour, speed and rhythm was retained. Both the patients and physicians were rated on scales including the degree to which they were angry/irritated, sympathetic/kind and anxious/nervous. Results of correlations showed that when doctors sounded more negative (i.e. angry, anxious) the patients expressed that they were more contented with the visit. However, from the verbal transcripts, it was also shown that the less anxious and more sympathetic the physician's words, the more content the patient. The authors suggest that a negative physician affect expressed in tone of voice, with a positive affect communicated through words, is interpreted by patients as positive, since this may reflect seriousness and concern on the part of the physician.

Encouraging and empathic behaviours of physicians towards parents has been found to be positively associated with satisfaction.[29] In this study, 40 paediatric visits were videotaped and mothers completed a satisfaction questionnaire[30] immediately after the visit. The consultations were analysed using the Resource Exchange Analysis System[31] to quantify the clinicians' use of: (i) encouragement (i.e. expression of positive reinforcement or good feelings in regard to a parent's actions, possessions or self; (ii) reassurance (i.e. assuagement of a parent's concern or worry; (iii) empathy (i.e. expression of intellectual appreciation of a parent's situation). Mothers with high exposure to encouragement and empathy had significantly higher satisfaction scores than those with low exposure. The authors, however, proposed the need for replication, since the population of mothers and clinicians are not likely to be representative and the participation rate was only 50%.

Positive verbal behaviour and partnership building during consultations has also been reported to be related to increased patient satisfaction. In their meta-analysis, Roter and colleagues[12–14] grouped process variables into six conceptual categories for the purpose of statistical analysis. Results showed that satisfaction was related to social conversation, conversation that could be construed as partnership building, positive non-verbal behaviour, positive talk, and technical and interpersonal competence.

The relationship between doctor and patient has been shown to be an important factor in patient satisfaction. In the postal survey of adult patients carried out by Williams and Calnan,[15] it was found that a doctor's perceived failure to take problems seriously was found to correlate negatively with patient satisfaction. The findings also indicated that the patient's liking of the GP as a person and having faith in the doctor was positively correlated with satisfaction. These were also two of the main predictors of patient satisfaction, together with the giving of information by the GP and the GP's medical skills. The $R^2$ for these four variables was 0.77, indicating the importance of these variables in affecting patient satisfaction with general practice.

## Communication style and patient satisfaction

Several studies have investigated how far the communication style of the doctor during consultations is associated with differences in patient satisfaction. The findings are summarized in Table 3.

## Patient-centredness

The disease-centred approach has been defined as doctor-led, and one in which the doctor concentrates on his or her own agenda and where the doctor seeks to reach a clear diagnosis of the problem through 'textbook' style enquiries about the patient's symptoms and medical history.[39]

In the patient-centred approach the consultation is patient-led: the doctor works to the patient's agenda listening and responding to what the patient says and the doctor–patient relationship is considered egalitarian. Patient-centredness has also been defined in terms of how far the doctor enables the patient to express their reasons for attending, including their symptoms, ideas, in feelings and expectations.[40] It has been stated that the focus of this approach is "to follow patients' leads" and "to understand patients' experiences from their point of view".[41]

An extensive number of studies have investigated relationships between patient-centredness in doctors and patient satisfaction. Stewart[32] defined patient-centred interactions as "those in which the patient's point of view is actively sought by the physician. This implies that the physician behaves in a manner that facilitates the patient's expressing himself and that for his part the patient speaks openly and asks questions." In this study the Bales Interaction Process Analysis system was used to analyse 140 consultations in 24 family physician offices. Patients were interviewed at home to assess their satisfaction 10 days after their visit. Two specific patient behaviours were related to satisfaction: 'patients giving opinion' and 'patients showing tension'. Physician behaviours significantly associated with high levels of patient satisfaction were 'asking for opinions' and 'asking for help'. It was concluded that, in general, positive outcome depends on physician behaviour which is facilitating rather than dominating. However, the Bales system of interaction analysis has been criticized. As indicated previously, the weakness in this method is the treatment of information transfer, that is the transferral of information from the patient to the doctor and the transferral of information to the patient from the doctor. Also, in the Bales system the level of the relationship appears to be favoured at the expense of content. A further weakness of the Bales system is that the classifications used for the coding of information transfer, "suggestion", "opinion" and "orientation" are not sufficient to reflect the information exchange between doctors and patients during medical encounters.

Roter and colleagues[33] have used a modified version of the Bales interaction analysis system to investigate the relationships between doctor behaviours, patient-centredness and patient satisfaction. In this study, two standardized patient cases presented by trained actors within consultation of 43 primary care doctors were audiotaped. A sample of 258 role-playing patients listened to the 86 audiotapes and, placing themselves in the context of the patient, rated their satisfaction with the doctor. The consultations were transcribed and analysed. The results showed that higher patient satisfaction was associated with higher use of patient-centred

TABLE 3 *Findings of relationships between doctors' communication styles during medical encounters and patient satisfaction*

| Study | Interaction analysis system | Communication style doctor behaviours | Communication style patient behaviours |
|---|---|---|---|
| Stewart (1984) (USA)[32] | Bales | Patient centredness: Asking for opinions (+) Asking for help (+) | Patient centredness: Gives opinion (+) Shows tension (+) |
| Roter *et al.* (1987) (USA)[33] | Bales (modified) | Patient centredness: Proficiency (+) Giving information and counselling (+) Giving directions and asking questions (−) Less bored voice (+) Less socio-emotional conversation (+) | |
| Henbest and Stewart (1990) (USA)[34] | Method developed for use in study | Patient-centredness (none) | |
| Street (1992) (USA)[35] | Method developed for use in study | Patient centredness: Less directives (i.e. recommendations, orders, instructions) (+) More patient-centredness (i.e. reassurance, support, empathy, encourage to ask questions, offer opinion, express feelings) (+) | |
| Roter *et al.* (1997) (USA)[36] | Method developed for use in study | Communication patterns: Psychosocial style (+) | |
| Savage (1990) (UK)[37] | Method developed for use in study | Directing versus sharing style: Directing style with patients with physical problems (+) | |
| Buller and Buller (1987) (USA)[38] | Norton (modified) | Affiliativeness versus Dominance/activity: High affiliativeness (+) High dominance/activity (−) | |

communications (i.e. giving information and counselling); lower use of doctor-centred communications (giving directions and asking questions) a less-bored voice quality and less socio-emotional conversation. However, a limitation of this study is the fact that satisfaction was rated by role-playing patients and therefore it was not an assessment of doctor–patient interaction in the natural setting. The authors concluded that there is a need for further investigations of this kind in real consultations with patients. Another limitation is the lack of measurement of patients' mood, since it is not known whether the finding that less socio-emotional conversation was related to increased patient satisfaction would be true for patients presenting with underlying mood disorder.

Henbest and Stewart[34] defined patient-centred care as: care in which the doctor responded to patients in ways that allowed for the patients' expression of all the reasons for visiting the doctor including: symptoms, feelings, thoughts and expectations. In their study, the subjects were 73 adult patients attending family practitioners and all had their consultations audiotaped. Patient-centredness was measured from the audiotapes and the doctor's response was scored as '0' if the doctor ignored the patient's offer, '1' if closed responses were used, '2' if open-ended responses were given and '3' if expression of the patient's expectations, thoughts or feelings were specifically facilitated.[40] The total score for a particular interview was calculated by summing the scores for the doctor's responses to each

TABLE 4 *Example of hypothetical scoring of two doctors on patient-centredness using the system devised by Henbest and Stewart*[34]

| Patient-centred scoring sheet | | | | | | |
|---|---|---|---|---|---|---|
| Offer | Doctor 1 (score) | Doctor 2 (score) | 0 | 1 | 2 | 3 |
| 1 | 1 | 1 | 0 | 1 | 2 | 3 |
| 2 | 1 | 1 | 0 | 1 | 2 | 3 |
| 3 | 1 | 1 | 0 | 1 | 2 | 3 |
| 4 | 1 | 1 | 0 | 1 | 2 | 3 |
| 5 | 1 | 1 | 0 | 1 | 2 | 3 |
| 6 | 1 | 1 | 0 | 1 | 2 | 3 |
| 7 | 1 | 1 | 0 | 1 | 2 | 3 |
| 8 | 1 | 1 | 0 | 1 | 2 | 3 |
| 9 | 1 | 1 | 0 | 1 | 2 | 3 |
| 10 | 2 | 3 | 0 | 1 | 2 | 3 |
| 11 | 2 | 3 | 0 | 1 | 2 | 3 |
| 12 | 2 | 0 | 0 | 1 | 2 | 3 |
| No. of offers | 12 | 12 | Key | | | |
| Total score | 15 | 15 | 0 = ignore, 1 = closed, 2 = open, 3 = specific facilitation (thoughts), feelings or expectations) | | | |
| Average score | 1.25 | 1.25 | | | | |

patient offer and then dividing by the total number of offers, to give a score ranging in value from 0 to 3. Patients completed the MISS satisfaction scale[22] immediately after the consultation. The results showed no associations between the patient-centredness score and satisfaction, but consultations with patient-centred scores in the highest quartile had the highest percentage of highly satisfied patients.[34]

The method of classification of patient-centredness, however, is flawed. As demonstrated in Table 4, a consultation may have long periods of time during which the patient talks freely about his/her own thoughts, expectations or feelings in response to, say, two facilitative responses by the doctor. However, if this same consultation also had many closed-end responses, the method of scoring would classify the doctor as having low patient-centredness or the same score as one in which the doctor never facilitated a patient's expectations, thoughts or feelings. The inclusion of a measure of the length of time for which a patient talked about certain topics would provide a more accurate assessment of patient-centredness. A second limitation of this study is that the patients selected for the study were those 'whose presentation included a new symptom'. Therefore, if the sample had not been restricted only to patients presenting with new symptoms, this might have reduced the strength of association between satisfaction and patient-centredness as defined in this study, since patients presenting with ongoing problems might have expressed their expectations, thoughts and feelings about their condition on previous visits.

Street[35] investigated the relationship between patient-centredness and parental satisfaction in 115 paediatric consultations. Consultations were audiotaped, and parents completed a satisfaction questionnaire after the consultation. Each of the doctor's utterances were coded within one of nine categories. Three of these categories were: (i) information giving (i.e. statements imparting information to the parent regarding diagnosis, tests, treatment or health in general); (ii) directives (i.e. recommendatitons, orders and instructions); and (iii) patient-centred utterances. (i.e. statements of reassurance, support and empathy, encouragements towards the patient to ask questions, offer opinions and express feelings, and other forms of interpersonal sensitivity). More-satisfied parents received fewer directives and proportionally more patient-centred utterances from the doctor. Parental satisfaction was also found to be highly correlated with the parent's perceptions of the doctor's informativeness.

A limitation of this study, however, is that satisfaction was measured with only one global item rather than with a valid and reliable measure of satisfaction.

In a more recent study, Roter and colleagues[36] investigated the relationship between five distinct physician communication patterns and patient satisfaction. The subjects were 127 physicians consulting with 537 patients. All consultations were audiotaped and after the visit patients completed a 43-item satisfaction questionnaire. The consultations were analysed using the Roter Interaction Analysis System (RIAS).[8] Cluster analysis was performed on three categories of the interaction for both doctor and patient: questions, biomedical information and psychosocial talk (as an indication of patient-centred versus doctor-centred interviewing). The analysis revealed five distinct patterns: (i) 'narrowly biomedical', characterized by closed-ended medical questions and biomedical talk; (ii) 'expanded medical', similar to the narrowly biomedical but with moderate levels of psychosocial discussion; (iii) 'biopsychosocial', reflecting a balance of psychosocial and biomedical topics; (iv) 'psychosocial', characterized by psychosocial exchange; and (v) 'consumerist', characterized by patients' questions and doctors' information giving. Patient satisfaction was significantly higher for the psychosocial pattern than for any of the other communication patterns. The narrowly biomedical pattern was rated by patients as least satisfying.

A limitation of this study is that there was no measure of patient mood state prior to the consultation, and so it was not determined whether other patterns of communication may have been associated with higher satisfaction rates if patients with more-negative mood states had been removed from the analysis. A further limitation is that the 5 patients do not cover all possible combinations of the communication behaviours chosen to distinguish the patterns.

## Directing versus sharing consulting style

The importance of measuring patients' underlying mood states when investigating which communication factors are related to patient satisfaction is demonstrated in a study of doctors' consulting style and satisfaction.[37] A total of 359 patients were randomly selected and assigned to receive either a 'directing' or 'sharing' consulting style (Table 5). Immediately after the consultation, patients were asked to complete a satisfaction questionnaire and then another after 1 week. The results showed that a greater proportion of patients presenting with physical problems who received a 'directing' style of consultation reported high satisfaction rates after 1 week than those who received a 'sharing' style. There were, however, no significant differences when the main treatment sought was advice or for patients with psychological or chronic problems. It was concluded that acute organic illnesses which respond to the traditional biomedical approach of diagnosis and treatment would appear to benefit from a directing style.

## Affiliativeness versus dominance/activity style

Buller and Buller[38] assessed the relationship between two communication styles of doctors during consultations and patient satisfaction. In this study, 219 patients were surveyed by telephone and satisfaction was measured with a modified version of the Interpersonal Communication Satisfaction Scale.[42] Doctor communication style was assessed with a modified 36-item version of Norton's Communicator Style Measure.[43] The results of factor analysis of this schedule revealed two factors: affiliativeness and dominance/activity (Table 6). High affiliativeness was positively correlated with satisfaction and high dominance/activity was negatively correlated with satisfaction.

## Summary, conclusions and implications

*Information provision/seeking and patient satisfaction*

In summary, there is evidence that doctors' general information provision during consultations is positively related to patient satisfaction. Patient information provision has also been found to be positively associated with patient satisfaction, but not excessive talking. There are mixed and often contradictory findings on the relationship between specific topics of information provision and patient satisfaction. For example, time spent on talking about a patient's history has been found to be both negatively and positively related to patient satisfaction.

There have also been conflicting results on relationships between information-seeking behaviours and patient satisfaction. In one study, less doctor questionning was positively related to parental satisfaction and yet in another study the use of more 'open' questions by doctors was positively correlated with patient satisfaction. Studies have also produced contradictory findings on the effects of patient information-seeking during consultations. In an early intervention study, increased question-asking in patients was negatively associated with patient satisfaction, whereas a more recent study found no significant negative effects of increased question-asking by patients.

*Relationship/affect and patient satisfaction*

In terms of the relationship and expressed affect during consultations, there is evidence that the doctor–patient relationship and the expression of affect during consultations are important factors in patient satisfaction. Doctor anger or disagreements or a negative tone expressed by either the doctor or the patient is negatively related to patient satisfaction. However, negative affect of the doctor has also conversely been found to be

TABLE 5 *Examples of directing and sharing styles of consultation by GP during five parts of consultation*[37]

| Part of consultation | Style of consultation | |
|---|---|---|
| | Directing | Sharing |
| Judgement on the consultation | "This is a serious problem" or "I don't think this is a serious problem" | "Why do you think this has happened?"<br>"Why do you think this has happened now?" |
| Diagnosis | "You are suffering from . . ." | "What do you think is wrong?" |
| Treatment | "It is essential that you take this medicine" | "What have you tried to do to help so far?"<br>"What were you hoping that I would be able to do?"<br>"Would you like a prescription?"<br>"I think this medicine would be helpful; would you be prepared to take it?" |
| Prognosis | "You should be better in . . . days" | "What do these symptoms or problems mean to you?" |
| Follow up and closure | "Come and see me in . . . days"<br>"I don't need to see you again for this problem" | "Are there any other problems?"<br>"When would you like to come and see me again?" |

TABLE 6 *Doctor communication style items*[38]

| Affiliativeness | Dominance/activity |
|---|---|
| • Very encouraging | • Tends to come on strong |
| • Extremely friendly | • Dominates conversation |
| • Verbally acknowledges other's contributions | • Verbally exaggerates to emphasize a point |
| • Very relaxed | • Dramatizes a lot |
| • Doctor's eyes reflect exactly what he/she is feeling | • Very argumentative |
| • Extremely open | • Constantly gestures when communicating |
| • Open and honest | |
| • Usually leaves impression | |
| • Leaves me with an impression I usually remember | |
| • The way doctor says something really leaves an impression on me | |
| • Leaves a definite impression | |
| • Very empathic | |
| • Extremely attentive | |
| • Listens very carefully | |
| • Deliberately reacts in such a way that I know he/she is listening | |

related to increased patient satisfaction. Negative physician affect expressed in voice tone with positive affect communicated through words may be interpreted by patients as positive, since this may reflect seriousness and concern on the part of the physician.

In terms of relationship factors, studies have indicated that the doctor's friendliness, courteous behaviour, social conversation, encouraging and empathic behaviours, partnership building, patients' liking of the GP as a person and faith in doctors are all positively related to patient satisfaction.

*Communication style and patient satisfaction*

Studies have indicated that higher patient-centredness and empathy during consultations with patients is associated with increased patient satisfaction. However, for patients presenting with physical problems, a 'directing' style from the doctor was also found to be associated with higher satisfaction rates than for those who received a 'sharing' style.

Overall, the findings on how far information provision/seeking behaviours are related to patient satisfaction have often been contradictory. There is evidence that establishing a good relationship with patients during consultations and expressing less negative affect is related to higher satisfaction rates.

Previous studies have often used methods of interaction analysis that have many weaknesses. A further limitation of existing studies has been the lack of measurement and control for other input factors (e.g. patient mood state) that may have an impact on the process of consultations and satisfaction rates. Also, many studies to date have failed to analyse doctor and patient communication behaviours separately. The majority of investigations have been carried out in America, which has a different health care system from that of the UK. There remains need for future studies that use improved systems of interaction analysis and include measurement of patient input factors to investigate how far information provision/question-asking, doctor–patient relations and the expression of positive or negative affect relate to patient satisfaction with primary care in the UK.

This review forms part of a doctoral thesis on doctor–patient communication.[44]

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