Changes in doctor-patient communication in general practice

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The study presented in this thesis has been performed at NIVEL, Netherlands Institute for Health Services Research, Utrecht, The Netherlands.

The studies were carried out according to Dutch privacy legislation. The privacy regulation was approved by the Dutch Data Protection Authority. According to Dutch legislation, approval by a medical ethics committee was not required for these observational studies.

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Changes in doctor-patient communication in general practice

Veranderingen in arts-patiënt communicatie in de huisartsenzorg

(met een samenvatting in het Nederlands)

Proefschrift

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Introduction
Introduction

The medical consultation is central to health care delivery. Key aspects of the consultation, including the dynamics of the doctor-patient relationship and diagnoses and treatment plans are established through doctor-patient communication [1,2]. However, the interaction does not exist in a vacuum; certain contextual factors influence the dynamics of doctor-patient communication [3-5]. This thesis focuses on doctor-patient communication within the changing context of general practice care in the Netherlands. Since general practice is continuously evolving, we argue that both the way general practitioners (GPs) and patients communicate, and the nature of the doctor-patient interaction are influenced by the prevailing context of a particular point in time. The primary question addressed in this thesis is: How are changes in general practice (shifts in approaches) reflected in doctor-patient communication (shifts in behavior)?

During medical interactions with their patients, GPs continuously strive to strike a balance between the task of understanding the disease (the ‘science of medicine’) and that of understanding the patient (the ‘art of medicine’) [6]. The needs of patients correspond to these two central tasks: patients have a need to know and understand, and a need to feel known and understood [7]. Finding this balance may be challenging for GPs: communication skills levels assessed during vocational training for GPs were found to show room for improvement [8]. Although medical students express positive attitudes towards acquiring patient-centered skills at the start of their medical training, these intentions do not always translate into actual patient-centered behavior [9]. There are even indications for a decline in patient-centered attitudes [10] and empathy levels [11] among medical students upon completion of medical training programs.

Investigating doctor-patient communication within the changing context of general practice may provide insight as to why acquiring adequate communication skills is challenging for GPs. We argue that awareness of shifts in approaches in general practice and in doctor-patient communicative behavior in the past may contribute to improving quality of care in the future.
When studying possible changes in doctor-patient communication, we designated three aspects for study: 1) the changing role of GPs within the Dutch health care system and GPs' efforts in setting standards for improving the quality of care, 2) the changing roles of patients attending medical consultations, and 3) relevant measurements and previous research studies on doctor-patient communication.

Understanding changes in the interaction between GPs and their patients presupposes a certain level of understanding of the role of GPs and patients within the Dutch health care system. Chapter 1 of this thesis sets out a selection of historical events relevant to the interaction between GPs and patients in order to gain an understanding of the changing context in which the doctor-patient interaction takes place. This chapter is not intended to give a full overview on the GP profession in the Netherlands. Instead, the focus is on describing shifts in dominant approaches in the profession. In this chapter we will also look at the changing role of patients and the concept of patient-centeredness. Although there are similarities in GPs’ and patients’ perspectives on general practice care, investigating patients' roles in the medical interaction is important because patients may hold different priorities and preferences to those of health care professionals [12]. Moreover, doctor-patient communication is a 'container concept' and can be measured and observed in various ways [13]. We will discuss tools relevant to the analysis of doctor-patient communication used in previous research and in the present study.

**Doctor-patient communication in the context of changes in primary care**

*The Woudschoten conference: continuous, comprehensive, and personal care*

One of the main strengths of general practice care has always been the integrative approach of their profession: "Comprehensive medicine is the specialty of the general practitioner" [14]. In 1959, the Dutch College of General Practitioners gathered at Woudschoten for what was to be a historic conference. They agreed on the core values of general practice care: "Accepting the responsibility for continuous, comprehensive and personal care for the health of individuals and families entrusted to the general practitioner" [15].
Today, the Woudschoten conference of 1959 ranks among the key historical events that laid the foundations for modern general practice in the Netherlands [16]. The definition of these core values of general practice signaled a shift away from the traditional predominantly disease-oriented approach towards a focus on the patient-as-person. "When discussing the role of the general practitioner, the following question always arises: who is this patient, who is this person, on whom the profession of family medicine is focused, with whom the doctor enters a doctor-patient relationship?" [17].

Understanding the patient-as-person rather than merely collecting medical information during consultations was considered important. Inspired by trends in psychotherapy, Dutch GPs adapted the concept of unconditional positive regard developed by Rogers [18], and became more inclined to look for underlying psychological explanations for physical complaints [19,20]. The Doctor, his patient and the illness by Michael Balint [21] gained popularity among Dutch GPs, and 'Balintgroups' were formed in which GPs exchanged experiences in parallel with studying psychological aspects during consultations with their patients [22]. With growing attention to psychological factors involved in health problems, the distinction was drawn between diseases (i.e. physical conditions) and illnesses (i.e. experiences of diseases) [23,24]. The core value of providing comprehensive care implies consideration of the complexity of health problems and adopting a biopsychosocial approach [25] in which biomedical and psychosocial factors are taken into account on an equal basis [26]. In line with this biopsychosocial model of care, GPs were encouraged to guard against somatic fixation; where patients or GPs focus exclusively on the physical aspects of complex health problems that may also include psychosocial aspects, such as anxiety or depression [27-29].

Doctor-patient communication in the vocational training of GPs
Based on the core values of continuous, comprehensive and personal care, the Dutch College of General Practitioners took measures to improve medical performance and develop a solid curriculum of a vocational training [30]. An official one-year postgraduate vocational training for Dutch GPs was established in 1973 [31]. Initially, the eight general departments of medical universities in the Netherlands set their own curricula. In addition, the Dutch Institute for General Practitioners (NHI) offered training modules to GPs [32]. In 1987, the 'General Practice Postgraduate Training Curriculum
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The Dutch College of General Practitioners also sought to promote and develop scientific knowledge specific to GPs [30]. The founders of the Dutch College of General Practitioners - established in 1956 - were enthusiastic GPs with a keen personal interest in scientific studies on general practice. In the 1950s, a number of these GPs (e.g. Huygen, Buma, Van Deen, Hogerzeil, and Van Es) conducted the first Dutch scientific studies specifically focused on topics relevant to GPs [39]. In 1966, Van Es became the first professor of General Practice in the Netherlands, followed by Huygen in 1968 [40]. Scientific research specifically focused on general practice also gained ground internationally; in the United Kingdom, the Royal College of General Practice

Towards a more evidence-based approach

In line with the focus on improving the performance of GPs, the Dutch College of General Practitioners also sought to promote and develop scientific knowledge specific to GPs [30]. The founders of the Dutch College of General Practitioners - established in 1956 - were enthusiastic GPs with a keen personal interest in scientific studies on general practice. In the 1950s, a number of these GPs (e.g. Huygen, Buma, Van Deen, Hogerzeil, and Van Es) conducted the first Dutch scientific studies specifically focused on topics relevant to GPs [39]. In 1966, Van Es became the first professor of General Practice in the Netherlands, followed by Huygen in 1968 [40]. Scientific research specifically focused on general practice also gained ground internationally; in the United Kingdom, the Royal College of General
Practitioners focused on developing an academic body to support best practice in clinical, education, and research settings [41]. In 1972, the World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians (WONCA) was founded with the aim of encouraging theoretical and clinical research [42]. Large-scale morbidity studies provided knowledge on the prevalence of symptoms and diagnoses and on variations in medical performance among GPs [43-46]. These studies contributed to gathering ‘evidence’ for setting standards of care in general practice [47].

Evidence-based medicine can be defined as “... the conscientious explicit and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research” [48]. Evidence-based medicine relies on finding evidence for the best available treatments in care and encourages standardized approaches, based on protocols and guidelines. Standardized clinical guidelines contribute to accountability and the implementation of guidelines is a pre-requisite for quality of care [49].

In 1989, the Dutch College of General Practitioners published its first set of national clinical guidelines [50]. The guidelines were mostly consensus-based; a small group of experts - experienced GPs - agreed on topics for and the content of national clinical guidelines for general practice [51]. However, guideline development processes have become more formalized over time, with greater emphasis on systematic and scientific evidence [52]. Today, clinical guidelines are fully integrated in Dutch general practice care; there are over a hundred different clinical guidelines applicable to general practitioners [53]. However, adherence varies greatly between various types of guidelines [54]. Whereas GPs manage to adhere to the guideline for non-specific low back pain to a large extent [55], adherence to depression and anxiety guidelines shows a need for improvement [56].

One of the concerns about the increased emphasis on standardized and evidence-based medicine is that individual care for the patient may fall by the wayside [13]. Efforts have been made to provide evidence-based guidelines on doctor-patient communication [57] and principles underlying the doctor-patient relationship are set out in the general codes for medical professionals: Modelregeling arts-patiënt [58] published by the Royal Dutch Medical Association (KNMG). However, most Dutch clinical guidelines
Changes in doctor-patient communication in general practice are highly disease-oriented and organized based on the chapters of the International Classification of Primary Care (ICPC) [59]. This raises the question as to whether and how the use of clinical guidelines can be reconciled with the core value of comprehensive and personal care provided by GPs.

Psychosocial care in general practice
Providing comprehensive care based on a biopsychosocial approach is specifically relevant when patients present with somatic health issues, although psychosocial aspects may also be at stake [60]. Even health problems that appear to be of a predominantly biomedical nature - for example an ankle sprain or urinary tract infection - may elicit worries among patients that require psychosocial exploration by GPs. However, we argue that adapting a biopsychosocial approach is most relevant when complaints are complex and may relate to underlying psychosocial factors. In this thesis, we decided to focus on consultations in which biopsychosocial exploration can be considered highly relevant to study changes in doctor-patient communication, and to investigate whether GPs are able to reconcile the use of clinical guidelines with the provision of comprehensive, personal care.

Hypertension is an example of a common health problem in general practice, which requires biomedical care, and is also related to psychosocial factors such as stress [61]. Low back pain is another highly prevalent problem in general practice related to psychological constructs such as pain-related distress and illness beliefs [62,63]. Whereas hypertension only manifests through 'silent' symptoms and patients may not always be aware of this health condition, low back pain is a complaint that is strongly symptom-based and may result in limitations to daily activities. GPs may not take the same approach to both conditions; GPs are expected to take a proactive approach to hypertension, whereas the clinical guideline for non-specific low back pain promotes cautiousness in medical interventions [64].

The changing role of the patient

GPs are not the only group to have evolved in their roles and behavior, the role of the patient is also dynamic and dependent on the prevailing context at a given point in time. Over the past few decades, GPs seem to have made
efforts to encourage patients to take an active role within the medical consultation, with a more significant role for the 'modern patient' who is expected to be well informed and assertive. However, it is not yet known whether the emphasis placed on activating patients actually translates into more assertive patients within the consultation room.

Activating patients within the medical consultation
The concept of patient-centeredness has emerged and developed in the past few decades in general practice [65,66], whereby GPs support and encourage patients to express themselves [67]. Giving space to patients' agendas is necessary, because their priorities and preferences may differ from those of the health care professional [12]. Patient-centeredness is characterized by a more egalitarian doctor-patient relationship that gives equal weights to the knowledge and values of both [68,69]. Adopting a patient-centered approach during medical consultations was found to positively influence patients' satisfaction levels and reduce medical prescriptions [70]. Mead and Bower [66] distinguish five dimensions of patient-centered care: 1) adopting a biopsychosocial perspective, 2) understanding the patient-as-person, 3) sharing power and responsibility, 4) developing common therapeutic goals, and 5) awareness of the doctor-as-person.

Today, patient activation and shared decision making, in which patients and GPs share treatment preferences and jointly agree on health care and treatment choices, is considered to benefit patients [69]. Moreover, availability of information resources - for example through the Internet - may contribute to health literacy [71] and motivate patients to become actively involved and more assertive during consultations with their GPs. Furthermore, legislative developments in the Netherlands in the area of patients' rights may also affect the power balance between patients and GPs. In 1994, the Medical Treatment Act (WGBO, Wet op de Geneeskundige Behandelingsovereenkomst) was implemented to legislate for the right to be informed and to give consent for treatment, as well as the confidentiality of patient data [72]. The following year, a regulation providing patients with the right to complain (WKCZ: Wet Klachtrecht Cliënten Zorgsector) was implemented in the Netherlands [73].
Patient assertiveness: ideology or practice?

Although awareness among GPs of the benefits of a patient-centered approach and the growing availability of information for patients have laid the groundwork for patients to take a more assertive role in medical consultations, research findings indicate that giving space for patients' agendas remains challenging. Although GPs often start consultations by soliciting patients' concerns, they tend to redirect patients' opening statements within half a minute, without offering patients the opportunity to follow up on their initial concerns [74]. Once redirected, patients rarely complete expressing their concerns later in the consultation [74]. Patients were found to rarely express their worries spontaneously and explicitly [75]. In addition, patients may have their own reasons for not sharing their worries with their GPs, including unwillingness to discuss psychosocial problems with anyone at all, the belief that a GP is not the appropriate person to talk to, and concerns about aspects of their relationship with their own GP [76]. Moreover, highly anxious patients may experience psychosocial and emotional communication by their GPs as intrusive or inappropriate [77]. Since patients vary in their preferences and expectations regarding the interaction with their GP [78], the patient-centered approach may not suit all patients. In addition, health literacy may influence the level of assertiveness and involvement during medical interactions [79]. However, even patients with high levels of health literacy - e.g. medical doctors who face illness and become patients themselves - tend to have difficulties remaining assertive during medical consultations [80]. Health care providers who are confronted with illness often realize that they define patient-centered care differently in light of their personal experience as a patient [81]. Moreover, they may struggle to reconcile their contrasting roles as patients and as medical professionals: they may be in denial of their illness, have less patience with treatments, and consult their friends or colleagues instead of their own GP [82]. It seems that regardless of their own level of medical knowledge, patients generally expect respect and support from their GPs. Within the doctor-patient interaction, patients remain dependent to a certain level as they need - and seek - help from their medical doctors. This dependency may hinder patients from showing the same level of assertiveness as they would outside the consultation room. This raises the question as to whether patients really have become more assertive over time, or whether this idea is based on ideology rather than practice.
Research on communication in general practice

In order to trace possible changes in doctor-patient communication, it is important to understand that the changing roles and approaches taken by GPs and patients determine the dynamics of the doctor-patient interaction in the consultation room. Reciprocal communication seems to be the key factor in establishing a successful doctor-patient relationship and bringing doctors’ and patients’ realities closer together. Examples of doctors’ personal narratives [83,84] show that despite the changing context in which doctors provide health care, sincere empathy and building relationships with patients are considered the cornerstones of the profession. However, these personal narratives also serve to highlight the challenge of maintaining these core values in the present context where there is a strong emphasis on evidence-based approaches.

Continuous, comprehensive and personal care implies consideration of the complexity of health problems, which require psychosocial and emotion-oriented attention from GPs [85]. Originally, discussion on doctor-patient communication had a strong ideological basis. However, with developments in the vocational training of GPs and efforts to gain scientific ground for general practice care, the need for empirical investigation of doctor-patient communication became apparent [13]. Empirical investigation of doctor-patient communication may focus on understanding the anatomy of medical consultations (i.e. observational studies), developing and evaluating training modules or interventions aimed at improving communication skills (i.e. evaluation studies), or understanding underlying mechanisms within the doctor-patient interaction (i.e. experimental studies). Since the focus of this thesis is on studying changes in the anatomy of general practice consultations, we will discuss relevant developments and measurements applied in observational studies on doctor-patient communication. As there is a wide range of available measurements to study doctor-patient communication, we limit our discussion to the developments leading to the measurements applied in our empirical studies.

Observing doctor-patient communication

Byrne and Long [86] were among the first researchers to perform an extensive systematic study on doctor-patient interaction using audio-recorded material. Based on check lists of observable verbal behavior, they
distinguished between doctor-centered behavior, such as asking closed questions and offering information or opinions, and patient-centered behavior, such as encouraging, exploring, and seeking patient ideas [86]. In addition to verbal behavior, non-verbal behavior such as eye contact was studied in the years that followed [87].

Interaction Analysis Systems are useful measurements for observing video material in order to identify communication patterns. Initially, Bales’ Interaction Process Analysis system - developed by social psychologist Robert Bales and aimed at small group interactions [88] - was applied to the analysis of doctor-patient interactions and identifying successful components that relate to outcome variables [89,90]. Patient-centered communicative behavior - for example explicitly asking patients’ opinions - during consultations was found to positively relate to patients’ satisfaction levels and compliance [90]. Based on Bales’ Interaction Process Analysis system, the Roter Interaction Analysis System (RIAS) was developed [91], specifically for medical interactions. In the RIAS coding system, the communication units are defined as utterances - the smallest discrete speech segment to which a classification may be assigned. RIAS distinguishes task-oriented utterances (i.e. communication categories that refer to talk oriented towards patients’ illnesses or patients’ illness experiences) from affect-oriented utterances (i.e. communication categories that refer to talk oriented towards enhancing the doctor-patient relationship or providing emotional support to patients). The Roter Interaction Analysis System [91] is an example of a widely used observation coding system, with proven validity and reliability [92]. RIAS has been applied to over 60 studies on doctor-patient communication in primary care in a variety of countries. Although the majority of the studies were conducted in the United States, the Netherlands, Belgium, the United Kingdom, and Norway, such publications also include studies from Switzerland, Germany, Indonesia, Cameroon, Mexico and Israel [93]. Moreover, the RIAS proved useful in studying doctor-patient communication in other areas such as oncology, nursing and pediatrics [93].

More recently, communication researchers have directed their attention to the dynamics of the doctor-patient interaction, by looking at communication sequences. The Verona Coding Definitions of Emotional Sequences (VR-CoDES) is an example of a recently developed coding system in which both expressions of emotion from patients and GPs’ responses are
captured [94,95]. Since patients often voice their worries indirectly, rather than spontaneously and openly [75], detection of emotional concerns may be challenging. An advantage of focusing specifically on emotional expressions is that subtle hints to underlying worries can be captured.

**Studying the ’art of medicine’ and the ’science of medicine’**

The central focus of observational studies on doctor-patient communication is the distinction between instrumental, task-oriented communicative behavior (e.g. asking questions, providing information) and emotional, affect-oriented communicative behavior (e.g. showing empathy, building the doctor-patient relationship) [1,96,97]. This distinction in communicative behavior corresponds to the traditional distinction between the ’art of medicine’ and the ’science of medicine’ [98]. The ’art of medicine’ refers to those aspects of the medical profession that are not always easy to capture in observable behavior, but requires GPs’ personal, individually tailored assessments of health problems. By nature, the ’art of medicine’ is mostly patient-oriented. Therefore, discussions regarding the doctor-patient relationship, trust, expectations, and emotional responsiveness can be considered to be covered by the ’art of medicine’. In general practice, this is reflected in the core values of providing comprehensive and personal care. The ’science of medicine’ refers to gaining evidence-based knowledge and can be described as strongly disease-oriented. The ’science of medicine’ aims to improve the quality of medical performance and interventions. In general practice, this is reflected in the development of standardized protocols and clinical guidelines.

Traditionally, gaining insights into the ’art of medicine’ and developing research within the ’science of medicine’ were two separate research areas. However, in the past few decades, researchers have experienced the need and taken on the challenge of combining the ’art of medicine’ with the ’science of medicine’. The need to draw on both aspects of medicine seems to be of particular relevance for complex health problems that require a biopsychosocial approach. In this thesis, we focus on selected health problems in which psychosocial factors may play a role, such as hypertension and low back pain. In both cases, we argue that patients would benefit most from an approach in which GPs combine knowledge from clinical guidelines (i.e. evidence-based medicine) with knowledge from their own assessment of the patient’s particular circumstances and emotions.
Medically unexplained physical symptoms presented somatically that cannot be linked to any physiological cause are another example of complex health problems. These medically unexplained physical symptoms may relate to underlying psychosocial problems. Although patients present their symptoms somatically, they may have a need for emotional support during consultations with their GP [99] and are often willing to acknowledge psychosocial factors in their distress [100]. Integrating the art of medicine with the science of medicine is not only relevant to understanding patients and their illnesses, but also to supporting patients and raising positive expectations regarding medical treatment. For example, recent studies focus on the role of communication in placebo effects [101,102]. In RCT studies, placebo effects are considered a nuisance. However, in studies on doctor-patient interactions, placebo effects should be viewed as a relevant context variable from which patients may benefit when positive expectations and empathy (‘art of medicine’) are well balanced with adequate medical treatment by their GPs (‘science of medicine’). Recent findings show that empathy may actually reduce physiological arousal in patients [103].

Over the past few decades, interest in doctor-patient communication has developed from initial discussions with a strong ideological basis, toward systematic research that contributes to evidence-based knowledge on doctor-patient communication.

Building an archive of videotaped consultations
In the 1970s and 1980s, the Dutch Institute for General Practitioners (NHI: Nederlands Huisartsen Instituut) collected video material for observational studies on doctor-patient communication in general practice to evaluate GPs’ behavior after following a training module [104] and to evaluate psychosocial communication and detection of psychological problems by GPs [105,106]. These studies on doctor-patient communication laid the foundation for further research on doctor-patient communication in the Netherlands. Using video material and additional data, communicative behavior could be correlated with outcome variables such as quality assessments by GPs and patient satisfaction levels [1]. In 1989 and 2001, the Netherlands Institute for Research on Primary Health Care (NIVEL) performed National Studies on Morbidity in General Practice [44,46] in which a broad range of data - prevalence data, patient background data from self-report questionnaires, as well as video recordings of consultations
were collected from GPs practicing in different regions within the Netherlands. On an international level, European and international research networks were established to study doctor-patient communication [107]. These networks facilitated comparative studies in which Dutch videotaped consultations in general practice were compared with consultations in other European countries [108] and the U.S. [109]. These previous studies on videotaped consultations between Dutch GPs and patients not only contributed to knowledge of doctor-patient communication, but provided an opportunity to build an extensive collection of videotaped consultations over the years. In addition, the NIVEL database of video recordings also includes consultations of other health care professionals, such as medical specialists and practice nurses. See Appendix A for a publication list based on videotaped consultations of the NIVEL database of video recordings in general practice. This extensive list does not include additional studies on other health care professionals. The archive of videotaped consultations in general practice formed the basis for the observational studies investigated in this thesis, and the comparisons of consultations from different periods.

Current study

Aim of the study
The aim of the current study is to investigate changes in GPs’ and patients’ assessments of the quality of doctor-patient communication and changes in observable doctor-patient communication, within the context of changes over time in general practice care in the Netherlands. We aim to investigate possible changes in communicative behavior in the context of a shift in approaches: from a comprehensive, personal approach toward a more evidence-based approach. In our view, the implementation of clinical guidelines (in the 1990s) was a key turning point in general practice in the Netherlands. Therefore, we compared general practice consultations before and after the implementation of these guidelines in the empirical studies of this thesis.

Videotaped consultations
This study mainly consists of secondary data analysis of an extensive database of videotaped consultations collected between 1975 and 2008.
Consultations in general practice in the Netherlands were recorded on video as part of previous studies on doctor-patient communication conducted by NIVEL. These videotaped consultations along with general background (e.g. patients’ and GPs’ age and gender, discussed health problem coded with the ICPC - International Classification of Primary Care) were digitized and catalogued to enable accessibility for additional observational research for the present study.

To gather videotaped material, GPs were approached by a NHI or NIVEL researcher and asked to participate in a study on doctor-patient communication. Since both GPs’ and patients’ participation was voluntary, selection bias could not be completely prevented. Whereas some study samples were gathered in the context of National Studies on Morbidity in General Practice [44,46] and therefore covered a diverse range of GP practices throughout the Netherlands, others were limited to GP practices within the professional network of the researchers which may also have contributed to selection bias (i.e. toward GPs and patients with higher levels of motivation than average). Consultations were recorded with an unmanned camera, to minimize the observer effect (i.e. participants modifying their behavior in response to the fact that they are observed). Video recording is a valid method of examining doctor-patient communication, as the influence of the video recorder on participants is marginal [110,111]. A researcher or research assistant was present in the waiting room of the participating general practice to distribute and gather questionnaires and to answer any additional questions from patients regarding the research project.

The studies were carried out in accordance with Dutch privacy legislation. All participating GPs and patients gave their informed consent. Regulations regarding the use of personal data for research purposes have changed over the years; for example, patients’ informed consents were acquired orally (by the participating GP or a research assistant in the waiting room) during studies in the 1980s, whereas written informed consent was collected in research studies from 1989 onwards in accordance with national regulations Wet Persoonsregistratie, and Wet Bescherming Persoonsgegevens [112,113]. In all studies, patients were free to refuse or terminate participation at any time prior to or during the consultation. For the observation of the studies, the researchers followed a standardized research protocol (NIVEL Kwaliteitshandboek) based on scientific research regulations.
set by the National Board for Research Integrity [114]. Moreover, all observers involved in the studies signed a statement of confidentiality before starting assessments and observations. This statement also provided for termination of the observation should observers recognize anyone on the videotaped consultation. In presenting research outcomes, data were always anonymized to prevent identification or recognition of individual GPs or patients. Video recordings that include real-life consultations are securely stored at NIVEL and never used for presentation purposes at conferences or other public events.

**Consultation types**

Three types of consultations were selected for the current study: 1) consultations with hypertension patients, 2) consultations in which GPs assess psychosocial aspects to be present, and 3) consultations with patients presenting low back pain complaints. These consultations were selected because psychosocial aspects may contribute either directly or indirectly to patients’ illnesses and illness experiences. Moreover, the inclusion of various types of consultations enabled us to investigate whether possible shifts in doctor-patient communication are consultation specific or generic, independent from consultation type.

The consultations on hypertension (N = 189) and low back pain complaints (N = 150) in our studies were selected based on the International Classification of Primary Care (ICPC). This information was available for all the consultations in the database of videotaped general practice consultations. Furthermore, for each consultation in the database, the GP assessed the degree to which psychosocial aspects precipitated the consultation on a scale of 1 ‘completely somatic to 5 ‘completely psychosocial. This assessment of psychosocial aspects was executed similarly on all study samples (i.e. “Can you indicate on a 5-point scale whether psychosocial aspects also play a role in the complaints?”). Based on these assessments we were able to select consultations in which GPs’ assessed psychosocial aspects to be present (N = 512) for our observational studies.

**Measurements of communicative behavior**

To study possible shifts in GP communication styles, we applied the Roter Interaction Analysis System (RIAS) [91, 115] in all of the selected
consultations within this thesis: hypertension consultations, psychosocial consultations, and low back pain consultations. We focused on the distinction between task-oriented utterances (e.g. asking questions, giving information, counseling) and affect-oriented utterances (e.g. personal remarks, showing empathy, reassurance) as observed with RIAS. For certain consultations, RIAS observations were already drawn up in previous observational studies. Therefore, different observers in different time periods were involved in coding the consultations. However, all coders had been extensively trained according to the same training protocol using the RIAS-manual. Although the manual was updated several times none of the changes in the updated manuals interfered with the data analyses.

In addition to RIAS observations, the consultations in which GPs assessed psychosocial aspects to be present and the consultations discussing low back pain were also coded using the Verona Coding Definitions of Emotional Sequences (VR-CoDES) [94,95]. The VR-CoDES system focuses on patients' voiced cues and concerns and GPs' immediate responses (lag 1) thereto. A cue is defined as 'a verbal or non-verbal hint which suggests an underlying unpleasant emotion but lacks clarity' (e.g. "I cannot stand it anymore"), whereas a concern is 'a clear and unambiguous expression of an unpleasant current or recent emotions where the emotion is explicitly verbalized' (e.g. "I feel anxious"). GPs' responses were coded according to two major conceptual factors: explicitness (i.e. explicit versus non-explicit responses) and space provision for further disclosure of the cue of concern (i.e. space-providing versus space-reducing responses).

For the low back pain consultations, we also defined GPs' sensitivity to patients' distress. We operationalized GPs' sensitivity in four categories: somatic acknowledgement (GP-, P-), psychosocial acknowledgement(GP+, P+), missed psychosocial factors (GP-, P+), and incorrect attribution of psychosocial factors (GP+, P-) based on GPs' and patients' assessments of psychosocial issues. We used GPs' assessments of the degree to which psychosocial aspects precipitated the consultation on a scale from 1 'completely somatic' to 5 'completely psychosocial'. We considered scores of 3 or higher to be an acknowledgement by the GP that psychosocial factors contributed to the low back pain complaints. Furthermore, patients from each videotaped consultation indicated whether they experienced general distress before they entered the consultation room. We used the COOP-WONCA scale (i.e. "During the past two weeks... How much have you been
bothered by emotional problems such as feeling anxious, depressed, irritable or downhearted and sad?") [116] or the General Health Questionnaire (GHQ-12) (item example: "Have you recently been feeling unhappy and depressed?") [117] to assess patients' distress levels.

**Thesis outline**

**Chapter 2** describes the results of a study in which we examined whether the shift towards a more evidence-based approach, characterized by the implementation of clinical guidelines, is accompanied by changes in perceived quality of doctor-patient communication according to GPs and patients. In this empirical study, GPs and lay observers with hypertension rated hypertension consultations. Changes over time on these quality assessments are discussed. The aim of the study described in **Chapter 3** is to examine whether lay people perceive shifts in the quality of doctor-patient communication during hypertension consultations and how these shifts may be described. We investigated which communicative aspects of general practice consultations lay observers valued when rating the quality of communication during consultations recorded before and after the implementation of national clinical guidelines. We examined quantitative assessments (ratings on a scale from 1 to 10) by lay observers with hypertension in relation to observed communicative behavior. Moreover, lay observers gave written feedback to gain valuable and complementary information on the aspects that contribute to the quality of doctor-patient communication according to untrained patients.

In **Chapter 4** we focused on consultations on psychosocial problems. We examined whether GPs' communication styles have changed since the introduction and implementation of clinical guidelines for psychosocial problems in Dutch general practice in the 1990s. Consultations assessed by GPs as 'completely psychosocial' were selected and changes in GPs' communication styles were analyzed with the RIAS. The shift toward a more evidence-based approach in which GPs may display a more task-oriented communication style, may also have implications as to whether patients open up about their concerns during consultations with their GPs. Therefore, we investigated whether the way patients voice their concerns has changed over time, and whether GPs' responses to voiced concerns has changed in **Chapter 5**. For this study, we decided to further investigate the psychosocial consultations examined in the previous chapter.
For Chapter 6, we focused on general practice consultations discussing low back pain. In this study, we investigated GPs’ sensitivity of patients’ distress and communication on psychosocial factors prior to and after the introduction of the clinical guideline for low back pain. We hypothesize that the implementation of the national clinical guideline for low back pain, in which the importance of psychosocial factors is emphasized, has raised the level of awareness among GPs of such issues.

Finally, Chapter 7 includes a summary of the findings from the empirical chapters and a general discussion and reflection on the studies in this thesis.
Chapter 1

References


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Chapter 1


Changes in the quality of doctor-patient communication between 1982 and 2001: an observational study on hypertension care as perceived by patients and general practitioners
Abstract

Background
The rise of evidence-based medicine may have implications for the doctor-patient interaction. In recent decades, a shift towards a more task-oriented approach in general practice indicates a development towards a more standardized health care. In this study, we examined whether this shift is accompanied by changes in perceived quality of doctor-patient communication.

Design
GP observers and patient observers performed quality assessments of Dutch General Practice consultations on hypertension videotaped in 1982-1984 and 2000-2001. In the first cohort (1982-1984) 81 patients were recorded by 23 GPs and in the second cohort (2000-2001) 108 patients were recorded by 108 GPs. The GP observers and patient observers rated the consultations on a scale from 1 to 10 on three quality dimensions: medical technical quality, psychosocial quality and quality of interpersonal behaviour. With multilevel regression analyses, we tested whether a change occurred over time.

Results
The findings showed a significant improvement over time on all three dimensions. There was no difference between the quality assessments of GP observers and patient observers. The three different dimensions were moderately to highly correlated and the assessments of GP observers showed less variability in the second cohort.

Conclusions
Hypertension consultations in general practice in the Netherlands received higher quality assessments by GPs and patients on medical technical quality, psychosocial quality and the quality of interpersonal behaviour in 2000-2001 as compared to the 1980s. The shift towards a more task-oriented approach in hypertension consultations does not seem to detract from individual attention for the patient. In addition, there is less variation between general practitioners in the quality assessments of more recent consultations. The next step in this line of research is to unravel the factors that determine patients’ quality assessments of doctor-patient communication.
Box 1 Article summary

Article focus
- Doctor-patient communication in hypertension consultations has become more business-like and task-oriented in the past few decades.
- Shifts in communication styles in general practice may have produced changes in quality assessments of doctor-patient communication by general practitioners and patients.

Key messages
- Compared to twenty years earlier (1982-1984), hypertension consultations recorded in 2000-2001 received higher quality assessments by GP observers as well as patient observers on three distinct quality dimensions: medical technical quality, psychosocial quality and the quality of interpersonal behaviour.
- There was less variation between general practitioners in the quality assessments of more recent consultations.

Strengths and limitations of this study

Strengths:
- Videotaped real-life general practice consultations from two distinct periods were analysed, which means that the findings refer to actual behaviour in general practice.
- The quality assessments were made according to the same protocol in both periods.

Limitations:
- Assessments of the GPs were executed by contemporary peers, while the assessments of patients were performed retrospectively. However, the concurrence of assessments of patient observers and GP observers in their different contexts reinforces our conclusions.
- The generalizability of the findings is restricted to hypertension consultations, which involve a high proportion of repeat visits.
Chapter 2

Introduction

The profession of general practice is evolving and the rise of evidence-based medicine may have implications for doctor-patient interaction [1-6]. Studies have found that doctor-patient communication has become more task-oriented [7]. Non-verbal aspects such as eye contact and body posture have changed in the past few decades [8]. It has been suggested that these changes may be related to a development towards a more standardized health care, based on protocols and guidelines [7,9,10]. Simultaneously, the curriculum of the professional training has undergone some major revisions focusing on training in communication skills [11,12]. However, there may be some tension between the development of standardized care and individual attention to patients [4,13,14]. In this study, we examined whether the shift towards more standardized and task-oriented care in general practice has produced changes in the quality of doctor-patient communication as assessed by general practitioners and patients.

Quality of doctor-patient communication is a multidimensional concept which includes both medical technical and psychosocial aspects but also involves facets of the interaction. We focused on hypertension in general practice, since this is a common health problem and these three dimensions of quality are clearly identifiable when dealing with hypertension care. Hypertension care does not merely depend on the quality of medical technical aspects, but also on psychosocial components [15]. Hypertension is a risk factor for coronary heart disease, and is sensitive to stress and psychological disorders [16]. The quality of the doctor-patient interaction also determines patients' active participation and encourages self-management skills that are necessary when dealing with hypertension [17,18]. Moreover, fostering the doctor-patient relationship is considered an essential and universal value within medical practice [19-21].

Since clinical guidelines are widely implemented in professionals' daily practice, it is expected that they may serve as a yardstick for general practitioners to measure the quality of the doctor-patient interaction. In contrast, most patients are not fully aware of these developments in general practice. Their perspective is different to that of the professionals, and patients mainly base their quality assessments on experiential knowledge and can have different priorities and preferences compared to professionals [22-24]. However, if the quality of the medical interaction has actually
Changes in doctor-patient communication in general practice

changed, patients should be able to perceive this change in doctor-patient communication over time.

**Methods**

We compared quality assessments of GP observers and patient observers across two time periods. The first cohort consists of consultations videotaped in 1982-1984. The second cohort was videotaped in 2000-2001.

**Videotaped consultations**

Based on the International Classification of Primary Care (ICPC), we selected videotaped consultations with hypertension patients (ICPC-codes K85-K87) from a larger dataset of two cohorts of random general practice consultations. The first cohort consisted of all hypertension consultations, selected from a random sample of 1569 videotaped consultation in 1982-1984 (n = 103) [7,25-27]. However, due to the deterioration in the technical quality of some videotaped consultations, only 81 consultations (recorded by 23 GPs) were usable for the quality assessments. The second dataset was recorded in 2000-2001 (n = 2794) and consisted also from a random sample of general practice consultations [7,28]. From this dataset, we selected every first hypertension consultation from each of the 108 participating GPs (n = 108).

The patients in the selected consultations showed no differences in age and gender between the two study samples. The mean age was 58.5 (sd = 14.80) and 61.4 (sd = 14.66) years, respectively (n.s.) and 65% versus 63% of the sample was female (n.s.). In both samples the vast majority of the consultations were repeat visits. All physicians in the selected consultations were specialized in general practice and the majority (92% versus 94%) had more than 5 years experience. In the first study sample (1982-1984), all of the physicians (n = 23) were male and in the second study sample (2000-2001), 80 physicians were male and 28 were female (74% versus 26%). In the Netherlands, routine care for hypertension patients is delivered in general practice. The study was carried out in accordance with Dutch privacy legislation. All participating physicians and patients who were videotaped during their consultation gave their informed consent.
Quality assessment by general practitioners (GP observers)

In 1987, 12 GP observers (age 30-70; 4 female and 8 male physicians) were asked to rate the selected consultations from the first cohort (videotaped in 1982-1984). These GP observers had a minimum of five years experience in practice. The procedure in this first cohort of peer assessments has been described previously [15]. In 2002, the second cohort of selected consultations (videotaped in 2000-2001) was individually rated by a new group of twelve GP observers (age 36-62; 6 female and 6 male physicians). These GP observers also had a minimum of five years experience in practice. Both groups of GP observers were drawn from the Dutch National Register of General Practitioners and recruited by mail or telephone. None of the GP observers were in any way involved in the collected videotaped consultations.

In both cohorts, each consultation was observed and rated by all twelve GP observers on three dimensions of quality of care. A scale from 1 (very poor) to 10 (excellent) was used. The dimensions assessed by the general practitioners were 1) medical technical quality of care, 2) psychosocial quality of care, and 3) quality of interpersonal behaviour (doctor-patient relationship). The GP observers received a short training program about the rating scale and the different dimensions of quality of care. For the assessments of the medical technical dimension, they were instructed to take into account the then current best practice for hypertension [29,30]. The psychosocial dimension referred to the way non-somatic aspects related to the complaint were addressed, such as stress-related factors in the origin of hypertension and the psychosocial problems caused by hypertension or its treatment; and interpersonal quality referred exclusively to the way in which the GP succeeded to build an open and secure relationship with the patient. All GP observers signed a statement of confidentiality before starting the assessments.

Quality assessment by patient observers with hypertension

Patient observers with hypertension rated videotaped consultations of both cohorts individually in the period from April 2010 to July 2010. People were recruited through advertisements on health related internet web pages as well as by flyers placed in health care settings (general practices, pharmacists). Participants who had previously been involved in other health research projects conducted by NIVEL were actively approached by mail. All patient observers met the following criteria: diagnosed with
hypertension by a physician, consulted the general practitioner at least once in the past year, not involved in a health care related lawsuit or legal complaint procedure, and being able to understand and speak the Dutch language.

In total, 108 patient observers with hypertension (age 24-80; 73 female and 35 male observers) completed the patient assessments of the videotaped consultations. See Table 2.1 for background characteristics of the patient observers. Each patient observer observed 8-12 consultations (randomly assigned from both cohorts, but with a total duration of approximately 90 minutes) in order for each consultation in the sample to be rated 5 or 6 times. The patient observers individually rated the same three dimensions of quality of care as the GP observers and received a comparable short training program. For the medical technical dimension, patient observers were instructed to consider the clarity of any medical explanations given by the general practitioner. For the other two dimensions, they received the same instruction as the GP observers. We noticed that patients could easily relate to these aspects of hypertension care and were therefore capable to distinguish all three dimensions based on their experiential knowledge. All patient observers signed a statement of confidentiality before starting the assessments.

Table 2.1 Background characteristics of the patient observers

<table>
<thead>
<tr>
<th>Background characteristics</th>
<th>Patient observers with hypertension (N = 108)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
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<tr>
<td>Female</td>
<td>73 (68%)</td>
</tr>
<tr>
<td>Male</td>
<td>35 (32%)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
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<tr>
<td>&lt; 40</td>
<td>2 (2%)</td>
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<tr>
<td>40 – 49</td>
<td>12 (11%)</td>
</tr>
<tr>
<td>50 – 59</td>
<td>46 (43%)</td>
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<tr>
<td>60 – 69</td>
<td>39 (36%)</td>
</tr>
<tr>
<td>70 – 79</td>
<td>9 (8%)</td>
</tr>
<tr>
<td>Education level</td>
<td></td>
</tr>
<tr>
<td>Primary education</td>
<td>2 (2%)</td>
</tr>
<tr>
<td>Secondary education</td>
<td>59 (66%)</td>
</tr>
<tr>
<td>Third-level education</td>
<td>47 (31%)</td>
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</tbody>
</table>

- Table 2.1 continues -
### Background characteristics

<table>
<thead>
<tr>
<th>Employment</th>
<th>Patient observers with hypertension (N = 108)</th>
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</thead>
<tbody>
<tr>
<td>Retired</td>
<td>35 (32%)</td>
</tr>
<tr>
<td>Employed</td>
<td>31 (29%)</td>
</tr>
<tr>
<td>Self-employed</td>
<td>5 (5%)</td>
</tr>
<tr>
<td>Other (student, housewife, job seeker)</td>
<td>37 (34%)</td>
</tr>
<tr>
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</tr>
<tr>
<td>Dutch</td>
<td>96 (89%)</td>
</tr>
<tr>
<td>First generation migrant</td>
<td>6 (5.5%)</td>
</tr>
<tr>
<td>Second generation migrant</td>
<td>6 (5.5%)</td>
</tr>
<tr>
<td>Health</td>
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</tr>
<tr>
<td>Using medication for hypertension</td>
<td>81 (75%)</td>
</tr>
<tr>
<td>Comorbidity, other chronic disease</td>
<td>50 (46%)</td>
</tr>
<tr>
<td>Health care use</td>
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</tr>
<tr>
<td>Contact with GP in last two months</td>
<td>76 (70%)</td>
</tr>
<tr>
<td>Contact with medical specialist in past year</td>
<td>72 (67%)</td>
</tr>
</tbody>
</table>

#### Statistical analyses

To account for the multilevel structure of quality assessments nested within videotaped consultations and individual observers, multilevel regression analysis was applied. The categories cohort (0 = 1982-1984 and 1 = 2000-2001) and observer type (0 = patient observers and 1 = GP observers) were coded as dummy variables. First, the associations between the three dimensions of quality of care were examined. Second, it was tested whether a change over time in quality assessments occurred and whether the quality assessments of patient observers and GP observers were comparable.

#### Results

**Associations between the three dimensions of quality of care**

The quality assessments correlated positively between the three different dimensions of quality of care for each observation period and for GPs and patients as well (see Table 2.2). Furthermore, analysis revealed that the overall quality assessments of interpersonal behaviour were higher compared to the medical technical dimension (T (5258) = 2.79, \( p < .01 \)); and the medical technical dimension received higher quality assessments than the psychosocial dimension (T (5249) = 6.80, \( p < .001 \)).
<table>
<thead>
<tr>
<th>Cohort</th>
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<th>Medical technical</th>
<th>Psychosocial</th>
<th>Interpersonal</th>
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<td></td>
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<td></td>
<td>Psychosocial</td>
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<td>-</td>
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<tr>
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<td></td>
<td>Interpersonal</td>
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<td>.80</td>
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<td>Assessments of GP observers</td>
<td>Medical technical</td>
<td>-</td>
<td>-</td>
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<tr>
<td></td>
<td></td>
<td>Psychosocial</td>
<td>.54</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interpersonal</td>
<td>.51</td>
<td>.79</td>
</tr>
<tr>
<td>2000-2001</td>
<td>All quality assessments</td>
<td></td>
<td></td>
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<tr>
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<td>Medical technical</td>
<td>-</td>
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<td></td>
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<td>Psychosocial</td>
<td>.58</td>
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<td></td>
<td></td>
<td>Interpersonal</td>
<td>.64</td>
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<tr>
<td></td>
<td>Assessments of GP observers</td>
<td>Medical technical</td>
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<td></td>
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<td>Psychosocial</td>
<td>.55</td>
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<td></td>
<td></td>
<td>Interpersonal</td>
<td>.56</td>
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<td></td>
<td>Assessments of patient observers</td>
<td>Medical technical</td>
<td>-</td>
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<td></td>
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<td>Psychosocial</td>
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<td></td>
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<td>Interpersonal</td>
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</table>
Changes in quality assessments over time
The assessments of the second cohort (2000-2001) were higher compared to the first cohort (1982-1984) for the three dimensions (see Figure 2.1). The multilevel regression analyses showed significant effects of cohort in all three dimensions: medical technical quality ($B = 0.58$, $Z = 5.43$, $p < .001$), psychosocial quality ($B = 0.35$, $Z = 2.36$, $p < .05$), and quality of interpersonal behaviour ($B = 0.50$, $Z = 3.64$, $p < .001$).

Figure 2.1 Means (and 95% CI) of assessments of medical technical quality, psychosocial quality and quality of interpersonal behaviour

Comparing patient observers’ and GP observers’ assessments
The figure shows that the assessments of GP observers were somewhat lower than assessments of patient observers; however, in none of the three dimensions was this difference found to be significant: medical technical quality ($B = -0.36$, $Z = 1.89$, n.s.), psychosocial quality ($B = -0.19$, $Z = 0.93$, n.s.), and quality of interpersonal behaviour ($B = -0.24$, $Z = 1.55$, n.s.).

When examining the variance of the quality assessments, the standard deviations of the assessments by patient observers and GP observers in the second cohort were smaller than in the first cohort on all three dimensions (for patient observers; medical technical quality: $F (478, 528) = 1.18$, $p < .05$, psychosocial quality: $F (480, 528) = 1.20$, $p < .05$, quality of interpersonal behaviour: $F (479, 537) = 1.30$, $p < .01$ and for GP observers; medical technical
quality: F (327, 1288) = 2.03, p < .001, psychosocial quality: F (326, 1288) = 2.71, p < .001, quality of interpersonal behaviour: F (327, 1288) = 2.26, p < .001). Furthermore, all standard deviations in the assessments of GP observers were smaller compared to the patient observers in the first cohort (medical technical quality: F (478, 327) = 1.83, p < .001, psychosocial quality: F (480, 326) = 1.59, p < .001, quality of interpersonal behaviour: F (479, 327) = 1.64, p < .001) and second cohort (medical technical quality: F (528, 1288) = 3.14, p < .001, psychosocial quality: F (528, 1288) = 3.58, p < .001, quality of interpersonal behaviour: F (537, 1288) = 2.85, p < .001).

In the model with the assessment of medical technical quality, the intraclass correlation on video level was 14% and on observer level 32%. For psychosocial quality, video level contained 26% and observer level 27% of the variance; for quality of interpersonal behaviour we calculated a variance of 27% on video level and 18% on observer level.

Discussion

Hypertension consultations in general practice in the Netherlands received higher quality assessments by general practitioners and patients on medical technical quality, psychosocial quality and the quality of interpersonal behaviour in 2000–2001 as compared to the 1980s. The three dimensions of quality were moderately to highly correlated, so there was internal consistency in the quality assessments within consultations. The assessments of interpersonal quality were higher than the assessments on the other two dimensions, which supports the central role of the doctor-patient relationship in the medical interaction between general practitioners and their patients. GP and patient observers agreed on the improved quality of the consultations, but GP observers showed less variation in their assessments than patient observers. There was also less variation in the assessments of the second cohort compared to the first cohort, which implies that there is greater consensus on the quality of the more recent consultations.

Standardized care in general practice

Our findings indicate that in this particular sample of videotaped hypertension visits, the shift towards a more task-oriented communication style [7] did not jeopardize the individual attention for the patient, since not
only medical technical quality, but also psychosocial quality and the quality of interpersonal behaviour received higher quality assessments over time. These results are remarkable because patients and doctors shared less concerns and less process-oriented talk (partnership building and directions) in more recent consultations [7]. Apparently, these shifts in communication styles do not necessarily lead to a decline in perceived quality of GPs’ communication. While this probably could be expected from the GP observers (the quality measures were highly interrelated, suggesting a certain ‘Halo-effect’), we had expected that patients would prefer the older videotapes in which the GP was less instrumental. Several studies demonstrate the importance patients attach to GPs’ affective communication [31,32]. This seemingly contradictory result needs further examination, for example in qualitative focus groups. Another important finding is the smaller variability in the quality assessments of general practitioners in the latter cohort, which can be considered as a sign that professionals are successfully assisted by clinical guidelines to assess the quality of care. There seems to be better consensus between general practitioners on what can be considered a ‘good’ consultation in respect of the more recent consultations.

Tailored approach to doctor-patient communication
In contrast with the GP observer assessments, there was a relatively high variance on the patient observer level, indicating large individual differences between patient observers. However, this is understandable since patient observers in particular base their ratings on experiential knowledge that can differ greatly between patients. Moreover, several studies show that patient preferences vary widely [33,34]. Therefore, the high variability between patients calls for a patient-centred and individually tailored approach to doctor-patient communication in general practice.

Strengths and limitations of the study
A strong point of the current study is that we examined medical interactions using videotaped real-life general practice consultations with hypertension patients from two distinct time periods. Thus, the findings refer to actual behaviour, as perceived by uninvolved observers. In addition, the videotaped participants were not aware of the fact that the analyses would focus on hypertension consultations. Video recording is a valid method to examine doctor-patient communication: the influence of the video recorder
on participants’ behaviour is marginal [35]. Moreover, the inclusion of both the professionals’ and the patients’ perspective enables a comprehensive view on quality of care. The observers were either experienced GPs or experienced patients (hypertension patients who visit their general practitioner regularly), so they were well able to relate to the videotaped consultations. In addition, we matched the medical condition of the patient observers with the patients in the videotaped consultations. Previous studies show that lay people (experienced patients) are well able to rate videotaped doctor-patient interactions and have an added value over ratings given exclusively by professionals or researchers [34,36,37].

A possible weakness of the study is that the assessments of the professionals were executed by contemporary peers, while the assessments of patients were performed retrospectively. The GP observers judged the video-taped consultations in the same time period in which the consultations took place. Therefore, the context in which the GP observers rated the consultations changed between the two cohorts. Although identical instructions to the two groups of GP observers was guaranteed because one of the authors (JB) was involved in both previous studies [7,15], we can not avoid a time and context related effect of the GP assessments. In contrast, the patient observers judged video-taped consultations that took place approximately 10 or 30 years ago. The context in which their ratings were conducted did not change between the two cohorts, but was also influenced by current knowledge and experience. Since it can be argued that expectations of what is considered a ‘good’ consultation are also subject to change over time, we cannot automatically assume that quality assessments would have been identical if patient observers also rated the consultations in the same time period as the recording of the consultations. However, the concurrence of assessments of patient observers and GP observers in their different contexts reinforces our conclusions. Another possible weakness is that the majority of consultations were hypertension repeat visits. A concern with hypertension repeat visits may be that these visits do not sufficiently address psychosocial care due to time constraints or the nature of the problem. However, attention to psychosocial aspects does not have to be time intensive [38]. In addition, the fact that patients are already familiar with the GP in repeat visits could also stimulate patients to voice their concerns. Nevertheless, we need to be cautious with the generalization of our findings.
This study shows that although there is an increased emphasis on task-oriented care in general practice, there is a higher perceived quality of doctor-patient communication in more recent consultations on different dimensions; not only on the medical technical care, but also on the psychosocial aspects and the doctor-patient relationship. The next step in this line of research is to unravel the factors that determine patients’ quality assessments of doctor-patient communication.
References


Changes in doctor-patient communication in general practice


3

Patients’ views on changes in doctor-patient communication between 1982 and 2001: a mixed-methods study

Abstract

Background
Doctor-patient communication has been influenced over time by factors such as the rise of evidence-based medicine and a growing emphasis on patient-centred care. Despite disputes in the literature on the tension between evidence-based medicine and patient-centered medicine, patients’ views on what constitutes high quality of doctor-patient communication are seldom an explicit topic for research. The aim of this study is to examine whether analogue patients (lay people judging videotaped consultations) perceive shifts in the quality of doctor-patient communication over a twenty-year period.

Methods
Analogue patients (N=108) assessed 189 videotaped general practice consultations from two periods (1982-1984 and 2000-2001). They provided ratings on three dimensions (scale 1-10) and gave written feedback. With a mixed-methods research design, we examined these assessments quantitatively (in relation to observed communication coded with RIAS) and qualitatively.

Results
1) The quantitative analyses showed that biomedical communication and rapport building were positively associated with the quality assessments of videotaped consultations from the first period, but not from the second. Psychosocial communication and personal remarks were related to positive quality assessments of both periods; 2) the qualitative analyses showed that in both periods, participants provided the same balance between positive and negative comments. Listening, giving support, and showing respect were considered equally important in both periods. We identified shifts in the participants’ observations on how GPs explained things to the patient, the division of roles and responsibilities, and the emphasis on problem-focused communication (first period) versus solution-focused communication (last period).
Conclusion
Analogue patients recognize shifts in the quality of doctor-patient communication from two different periods, including a shift from problem-focused communication to solution-focused communication, and they value an egalitarian doctor-patient relationship. The two research methods were complementary; based on the quantitative analyses we found shifts in communication, which we confirmed and specified in our qualitative analyses.

Keywords
quality of care; doctor-patient communication; analogue patients; general practice; video observation; mixed-methods design
Chapter 3

Background

The way general practitioners (GPs) in the Netherlands communicate with their patients has been subject to trends and changes [1-3]. One of the important changes is the growing emphasis on evidence-based medicine. In 1989, the Dutch College of General Practitioners published the first national clinical guidelines [4-6]. Today, there are one hundred different clinical guidelines for general practitioners [7]. In addition, other developments in society at large and health care in particular, such as changes in morbidity (more chronic diseases), power balances (more egalitarian relationships), and accessibility of medical information (via the Internet) may have influenced how doctors and patients interact in medical consultations [8]. Topics such as shared decision-making and the development of evidence-based tools that support the involvement of patients in health care decisions have gained the interest of GPs and other health care providers [9]. Despite these developments in patient-centred care, it was found that doctor-patient communication in hypertension consultations has become more task-oriented in recent decades [1]. Patients talked less, while GPs provided more biomedical information and exhibited fewer concerns and worries in more recent consultations. In addition, GP and patients perceived an improvement over time in the quality of doctor-patient communication [3].

The ideological agreement on the relevance of more patient-centred health care seems not to be automatically translated in more egalitarian relationships within the medical consultation room. Therefore, the importance of finding a balance between evidence-based medicine and patient-centred care has been emphasized by researchers and health professionals [10-13].

The goal of medicine is to correctly address health problems perceived by patients [14]. Although there does not seem to be any discussion on this central position of patients in health care, problems remain on finding proper quality assessments methods for patients [15-16]. However, studies show that lay people are competent to assess quality of care, that their assessments have an added value over ratings given exclusively by professionals or researchers, and that they are able to express their opinions about health care issues [17-22]. The term ‘analogue patients’ is used in communication studies to define lay people who rate video-taped medical consultations (real or scripted) while taking on the patient role [23-
Analogue patients’ perceptions of communication were found to generally overlap with clinical patients’ perceptions, which imply that analogue patients can be used as proxies for assessing doctor-patient communication [26]. Moreover, it has also been shown that lay people or patients have other priorities as compared to the physicians by whom they are treated [27]. These studies suggest that patients’ views can and should be fully utilised when studying which communicative aspects contribute to the quality of doctor-patient communication. In this study, we therefore focus on the patient’s perspective, which is based on experiential knowledge and may reveal different priorities and preferences compared to professionals [27-29].

Quality of doctor-patient communication is a multidimensional concept which involves biomedical and psychosocial aspects of medical care, but also involves facets of the interaction itself. Moreover, fostering the doctor-patient relationship is considered an essential and universal value within medical practice [30]. In addition, doctor-patient communication can be considered to be a combination of observable verbal and non-verbal behaviours and elements that are more difficult to observe or quantify [31]. Untrained patients may base their judgments on dimensions of interactions that are mostly intangible. In an attempt to grasp the observable as well as the more intangible aspects that contribute to the quality of doctor-patient communication, qualitative methods to examine patients’ views can be valuable and complementary to quantitative approaches [32-34].

The aim of this study is to examine whether analogue patients perceive shifts in the quality of doctor-patient communication and how these shifts may be defined. We investigated which communicative aspects of GP consultations were valued by analogue patients when rating the quality of communication from two periods: 1982-1984 versus 2000-2001.

**Methods**

Analogue patients assessed the quality of doctor-patient communication during consultations from two periods. We focused on hypertension in general practice, since different dimensions of quality are clearly identifiable when dealing with hypertension; the quality of hypertension care depends on biomedical aspects of communication, but also on psychosocial
dimensions [35]. The first batch consisted of consultations videotaped in 1982-1984. The second batch was videotaped in 2000-2001. To be able to clearly distinguish two periods, we selected consultations from two batches with an interval of almost 20 years. In the first period, clinical guidelines were not yet nationally implemented, while GPs in the second period were already very familiar with working with guidelines. This mixed-methods study consisted of two parts: 1) Participants rated the consultations quantitatively on three dimensions of quality of communication. Subsequent analysis examined whether the ratings of both periods were related to communicative behaviour as coded with the Roter Interaction Analysis System (RIAS); and 2) Participants provided negative and positive comments regarding the doctor-patient communication in the consultation, which were analysed by means of qualitative research methods. We used the software package MAXQDA2007 to conduct these qualitative analyses.

**Videotaped consultations**

Based on the International Classification of Primary Care (ICPC), we selected videotaped consultations with hypertension patients (ICPC-codes K85-K87) from a larger dataset of two cohorts of random general practice consultations. We focused on hypertension consultations, because hypertension care involves both biomedical and psychosocial dimensions. The first cohort consisted of all hypertension consultations, selected from a random sample of 1,569 videotaped consultation in 1982-1984 (n=103) [1,36-38]. However, due to technical deterioration of some videotaped consultations, only 81 consultations (recorded by 23 GPs) were useable for the quality assessments. The second dataset was recorded in 2000-2001 (n=2,794) and consisted likewise of a random sample of general practice consultations [1,39]. From this dataset, we selected every first hypertension consultation from each of the 108 participating GPs (n=108).

The patients in the selected consultations showed no differences in age and gender between the two study samples. The mean age was 58.5 (sd = 14.80) and 61.4 (sd = 14.66) years, respectively (n.s.) and 65% versus 63% of the sample was female (n.s.). In both samples the vast majority of the consultations were repeat visits. All physicians in the selected consultations were trained in general practice and the majority (92% versus 94%) had more than 5 years experience. In the first study sample (1982-1984), all of the physicians (N = 23) were male and in the second study sample
Changes in doctor-patient communication in general practice

(2000-2001), 80 were male and 28 were female (74% versus 26%). In the Netherlands, routine care for hypertension patients is delivered in general practice. The study was carried out in accordance with Dutch privacy legislation. All participating physicians and patients who were videotaped during their consultation gave their informed consent.

Participants
Analogue patients with hypertension assessed videotaped consultations of both periods individually in the period from April 2010 to July 2010. People were recruited through advertisements on health related internet web pages as well as via flyers placed in health care settings (general practices, pharmacies). Participants who had previously been involved in other health research projects conducted by NIVEL were actively approached by mail. All participants met the following criteria: diagnosed with hypertension by a physician, consulted a general practitioner at least once in the past year, not involved in a health care related lawsuit or legal complaint procedure, and being able to understand and speak the Dutch language.

In total, 108 participants with hypertension (age 24-80; 73 female and 35 male) completed the quality assessments of the videotaped consultations. See Table 3.1 for background characteristics of the participants. Most participants (90%) did not have previous experience with health research and 15 participants (14%) were members of a patient organisation. All signed a statement of confidentiality in advance. Participants were instructed to signal when they recognized the doctor or patient on the video. In those cases the video would be stopped. However, this happened only once. Before starting the actual assessments of the videotaped consultations, the participants underwent a short training program in which the rating scale was explained and a typical consultation (not part of the sample) was shown to practice with the assessment scale.
### Table 3.1 Background characteristics of the patient observers

<table>
<thead>
<tr>
<th>Background characteristics</th>
<th>Patient observers with hypertension (N = 108)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>73 (68%)</td>
</tr>
<tr>
<td>Male</td>
<td>35 (32%)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>&lt; 40</td>
<td>2 (2%)</td>
</tr>
<tr>
<td>40 – 49</td>
<td>12 (11%)</td>
</tr>
<tr>
<td>50 – 59</td>
<td>46 (43%)</td>
</tr>
<tr>
<td>60 – 69</td>
<td>39 (36%)</td>
</tr>
<tr>
<td>70 – 79</td>
<td>9 (8%)</td>
</tr>
<tr>
<td><strong>Education level</strong></td>
<td></td>
</tr>
<tr>
<td>Primary education</td>
<td>2 (2%)</td>
</tr>
<tr>
<td>Secondary education</td>
<td>59 (54.5%)</td>
</tr>
<tr>
<td>Third-level education</td>
<td>47 (43.5%)</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td></td>
</tr>
<tr>
<td>Retired</td>
<td>35 (32%)</td>
</tr>
<tr>
<td>Employed</td>
<td>31 (29%)</td>
</tr>
<tr>
<td>Self-employed</td>
<td>5 (5%)</td>
</tr>
<tr>
<td>Other (student, housewife, job seeker)</td>
<td>37 (34%)</td>
</tr>
<tr>
<td><strong>Native background</strong></td>
<td></td>
</tr>
<tr>
<td>Dutch</td>
<td>96 (89%)</td>
</tr>
<tr>
<td>First generation migrant</td>
<td>6 (5.5%)</td>
</tr>
<tr>
<td>Second generation migrant</td>
<td>6 (5.5%)</td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td></td>
</tr>
<tr>
<td>Using medication for hypertension</td>
<td>81 (75%)</td>
</tr>
<tr>
<td>Comorbidity other chronic disease</td>
<td>50 (46%)</td>
</tr>
<tr>
<td><strong>Health care use</strong></td>
<td></td>
</tr>
<tr>
<td>Contact with GP in last two months</td>
<td>76 (70%)</td>
</tr>
<tr>
<td>Contact with medical specialist in past year</td>
<td>72 (67%)</td>
</tr>
</tbody>
</table>
Part I: Quantitative study

Quality assessments by participants
Each participant viewed 8-12 consultations (randomly assigned from both periods, but with a total duration of approximately 90 minutes) in order for each consultation in the sample to be rated 5 or 6 times. The total number of observations was 1,027. We asked participants to individually assess the consultations on three dimensions of quality of communication. A rating scale from 1 (very poor) to 10 (excellent) was used. The dimensions assessed by the participants were biomedical quality of communication, psychosocial quality of communication and quality of interpersonal behaviour. These three dimensions were previously also assessed by GP observers with a similar assessment protocol [3,37]. The assessments consisted of a question form with three separate questions: “How do you judge the biomedical / psychosocial / interpersonal quality of this consultation?”. For the assessments of the biomedical dimension, participants were instructed to consider the clarity of any medical explanations given by the GP. Second, the psychosocial dimension referred to the way non-somatic aspects related to the complaint were addressed, such as stress-related factors in the origin of hypertension and psychosocial problems caused by hypertension or its treatment. Third, the interpersonal quality referred to the way in which the GP succeeded in building an open and secure relationship with the patient. We noticed that patients did not have any difficulties recognizing these aspects of hypertension care and were therefore capable of distinguishing all three dimensions based on their experiential knowledge.

Communicative behaviour of the GP coded with RIAS
Doctor-patient communication had already been coded for another project using RIAS [1], and these data were available for secondary analyses. RIAS is a widely-used international observation system with proven validity and reliability [40]. In the RIAS-coding system the communication units are defined as utterances - the smallest discriminable speech segment to which a classification may be assigned [41,42]. The RIAS distinguishes task-oriented behaviour (asking questions, giving information, counselling) from affect-oriented (personal remarks, showing concern, rapport building) and process-oriented (giving directions, partnership building) behaviour. The categories in RIAS are mutually exclusive and classify all utterances during
a medical interaction and are therefore suitable for analysing the composition of consultations in detail and examine the proportion of different communication categories within consultations. Although different observers coded the two samples of consultations, all coders had been extensively trained according to the same training protocol using the RIAS-manual [41,42]. The manual received an update between the two periods. However, there were no relevant changes between the manual of 1987 and 1993 [1]. To check on inter-observer reliability, approximately 10% of all videotaped consultations were coded by at least two observers. In both samples the inter-observer reliability of the RIAS categories was shown to be satisfactory to very good with Pearson’s r ranging from 0.72 to 0.99.

Statistical analyses
To account for the multilevel structure of quality assessments nested within videotaped consultations and individual observers, multilevel regression analyses were applied. The effects of communicative behaviour of the GP during the consultations on the ratings by analogue patients were examined. These analyses were executed for both periods (1982-1984 and 2000-2001). It was also tested whether there were any effects of individual analogue patients’ characteristics (such as age, gender, perceived health). Since none of these effects were found to be significant, we decided to leave out these analyses in the result section of this paper.

Part II: Qualitative study
Comments given by participants
We asked participants to individually provide for each consultation any negative and positive comments regarding the doctor-patient communication in the consultations. They were free to note anything that they considered relevant to the quality of the doctor-patient interaction. Textual analysis of written comments gave us the opportunity to examine independent opinions on different consultations. With this qualitative method, we were able to make a decent comparison between consultations from two periods. We noticed that the participants could easily relate to the hypertension consultations and generally did not have any difficulties in writing down their feedback. The median number of comments per participant was 19 (range of 1 to 43 comments), with only 9 participants
writing down less than 10 comments. In total, the consultations from the first period received 627 positive comments (mean of 7.74 notes per consultation) and 433 negative comments (mean of 5.35 notes per consultation). The consultations from the second period received 772 positive comments (mean of 7.15 notes per consultation) and 443 negative comments (mean of 4.10 notes per consultation).

Qualitative analyses
We performed the qualitative analysis in five steps: 1) construction of the code list; 2) coding the complete dataset of comments and examining the frequencies of the codes; 3) comparing the code frequencies between both periods; 4) identifying recurrent themes in the focus and terminology of comments; 5) comparing the identified themes between both periods.

**Step 1: construction of the code list.** Based on the comments of participants, a thematic analysis of quality aspects was conducted by two researchers (LB and HB), in order to construct a conceptual code list [43]. In a first round of open coding, the positive as well as the negative comments on ten consultations from both periods were coded by the two researchers independently. The three dimensions of quality of doctor-patient communication (biomedical, psychosocial and interpersonal) were used as a conceptual framework for the coding of the comments. However, the researchers were also free to identify any new dimensions of quality of doctor-patient communication while coding. For example, while the three dimensions of quality of communication were identified and further specified in different components, patients also mentioned general communication characteristics that were added as basic conditions for the three quality dimensions. Discussion of this first round of coding resulted in an initial list of codes, which was used and modified by the two researchers in a second round of coding. For example, one of the discussion points was whether or not to create a separate code ‘being involved’ in addition to the existing codes ‘offering continuity’, ‘treating respectfully’ and ‘reassuring’. In the final version we decided to add this code because involvement was indeed a different category as it appeared in the comments. The final code list is displayed in Table 3.2.
Table 3.2  Final code list with definitions and examples per code

<table>
<thead>
<tr>
<th>General communication characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
</tr>
</tbody>
</table>
| Preparing patient               | Preparing and directing patients by announcing examination or provide structure in the consultation | + GP: “I am going to take your blood pressure”  
- Does not announce what he is going to examine |
| Asking questions                | Questions by the GP that refer to the medical complaint or psychosocial aspects related to the complaint | + The doctor asked about her leg cramps  
- Did not ask relevant questions |
| Explaining                      | Giving explanations about the medical complaint, examination, or psychosocial aspects of the complaint | + Explains the function of the medicine  
- Did not mention the blood pressure after examination |
| Working efficiently             | Working efficiently and being organized                                      | + Immediately comes to the point talking about the ECG  
- Was very busy with paper work before he could give attention to the patient |
| Taking time for patient         | Being patient and calm                                                        | + Takes a lot of time for the patient  
- Is fast, hurried, and uninterested |
| Talking intelligibly            | Any comments on talking intelligibly; patient unable to understand what GP is saying | + Clearly pronouncing the sentences because of patient’s deafness  
- Talking too softly and not finishing his sentences |
| Communicating appropriately     | General comments on communication and the words used by the GP                | + Very relaxed communication between doctor and patient  
- GP is too nonchalant |

<table>
<thead>
<tr>
<th>Biomedical quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
</tr>
</tbody>
</table>
| Decision making     | Deciding on a treatment, giving advice, prescribing medicine                | + Gives multiple options, lets the patient make a choice  
- Does not give an advice |
| Performing correctly| Technically good performance, proceeding correctly                           | + Takes the initiative to measure blood pressure  
- Does not examine the shoulder |

- Table 3.2 continues -
<table>
<thead>
<tr>
<th>Psychosocial quality</th>
<th>Code</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
</table>
| Being alert to psychosocial signals | Noticing psychosocial signals, paying attention to patient’s mental state | + He identifies the concerns of the patient  
- GP does not react when Mrs says that she does not sleep well because of tension |
| Giving advice | Giving advice on psychosocial aspects of the complaint | + Patient gets a referral to psychologist  
- Only gives brief information about whether or not the patient can go back to work |

<table>
<thead>
<tr>
<th>Interpersonal quality</th>
<th>Code</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
</table>
| Offering continuity | Being familiar with the patient and knowing patient’s personal background | + Recaps what was discussed in the past  
- Not well informed about the patient’s medical history |
| Being involved | Showing sincere involvement and adopting a personal approach | + Asks how patient experienced her recent hospitalization  
- Very business-like |
| Treating respectfully | Being polite; being friendly; taking time to greet patient | + Speaks very respectfully to older lady  
- Does not greet the patient at the start of the consultation |
| Listening attentively | Paying full attention to patient; listening; showing interest; not permitting distraction by telephone interruptions | + Shows interest in the patient  
- There is not much eye contact |
| Reassuring | Verbally and non-verbally showing reassurance and support | + Reassures patient by saying ‘You don’t have to worry’  
- Tense atmosphere; which does not reassure the patient |
| Treating patient as equal | Taking patient seriously; not being arrogant or patronizing | + Takes the patient seriously  
- The GP talked about the patient and did not put much effort in establishing contact with the patient |
| Following the patient’s story | Being patient-centered; reacting to the patient’s input; taking patient’s view into account | + Reacts to patient’s comments  
- Rejects all suggestions by the patient (e.g. taking vitamin supplements) |
Chapter 3

- Table 3.2 continued -

| Showing appraisal | Giving compliments; show appraisal | + Gives a compliment about quitting smoking
| Did not react to the fact that patient lost weight |
| Respecting privacy | Dealing correctly with confidentiality | + GP says: I’d rather give it [prescription] to the person who is going to use it
| It is not professional to talk about other patients during the consultation |

Step 2: examining frequencies of codes. The constructed code list was used to code the total dataset of comments. LB performed the coding of the dataset, while HB randomly cross-checked assigned coding categories. We calculated the frequencies of comments assigned per code.

Step 3: comparing frequencies of codes. We identified the top 3 frequencies of each group of comments (positive versus negative comments and first versus second period) and we examined whether there were shifts in these top frequencies between the two periods.

Step 4: identifying themes in comments. We studied the content of the comments for each period separately, to identify overall themes. Themes were first identified by the two authors LB and HB, and then discussed with all authors.

Step 5: comparing themes in comments. Finally, we explored whether any changes had occurred in the focus and terminology of the identified themes in step 4 between the two periods.

Results

Part I: Quantitative study

Communicative determinants of quantitative assessments
For the first period, a positive relationship was found between the biomedical quality assessments by analogue patients and the number of biomedical questions and amount of information and counselling given by the GP during the consultation (see Table 3.3). However, this relationship
was not visible for the second period. For the second period, none of the communication variables were found to be significantly associated with biomedical quality according to the assessments.

Assessments of psychosocial quality were positively related to the number of psychosocial questions, and amount of information and counselling given by the GP in both periods. In addition, rapport building was positively associated with psychosocial quality in the first period ($B = 0.013, Z = 3.31, p < .01$). In the second period, the effect of rapport building was not significant, but showed a trend ($B = 0.011, Z = 1.96, p = .05$).

A positive relation between personal remarks by the GP and the interpersonal quality assessments was found in both periods. In addition, psychosocial communication was positively related to interpersonal quality assessments. Although the effect of psychosocial communication was only significant in the second period ($B = 0.026, Z = 2.05, p < .05$), psychosocial communication also showed a trend in the first period ($B = 0.024, Z = 1.92, p = .06$). Finally, rapport building was positively associated with interpersonal quality in the first period, but not in the second period.

To identify which part of the variance was located on the video level and observer level respectively, we calculated the intraclass correlations (ICC) on these levels for both periods. In the first period, the intraclass correlations on video level were 12% (biomedical), 23% (psychosocial) and 22% (interpersonal). The intraclass correlations on observer level were 26% (biomedical), 23% (psychosocial) and 19% (interpersonal). In the second period, the intraclass correlations on video level were 15% (biomedical), 16% (psychosocial), and 6% (interpersonal). The intraclass correlations on observer level were 20% (biomedical), 20% (psychosocial), and 17% (interpersonal). The variance on video level decreased for the psychosocial and interpersonal quality assessments, indicating more uniformity between consultations on these dimensions in the second period. The variance on observer level decreased for all three dimensions, indicating more agreement between observers on how to define quality of communication in recent consultations.
Table 3.3 Analogue patients’ assessments (biomedical, psychosocial and interpersonal quality) related to GPs’ communication (coded with RIAS)

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Biomedical quality</td>
<td>Psychosocial quality</td>
</tr>
<tr>
<td>Constant</td>
<td>6.07</td>
<td>5.36</td>
</tr>
<tr>
<td>Task-oriented communication (questions, information, counselling)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biomedical</td>
<td>0.013</td>
<td>2.14 *</td>
</tr>
<tr>
<td>Psychosocial</td>
<td>0.018</td>
<td>1.79</td>
</tr>
<tr>
<td>Lifestyle</td>
<td>0.019</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>0.012</td>
<td>0.006</td>
</tr>
<tr>
<td>Affect-oriented communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal remarks</td>
<td>0.014</td>
<td>1.37</td>
</tr>
<tr>
<td>Sharing concern</td>
<td>0.021</td>
<td>0.98</td>
</tr>
<tr>
<td>Rapport building</td>
<td>0.002</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>0.047</td>
<td>0.111</td>
</tr>
<tr>
<td>Disagreements</td>
<td>-</td>
<td>0.90</td>
</tr>
<tr>
<td></td>
<td>0.032</td>
<td>-</td>
</tr>
<tr>
<td>Giving directions</td>
<td>-</td>
<td>1.23</td>
</tr>
<tr>
<td>Partnership building</td>
<td>-</td>
<td>0.90</td>
</tr>
</tbody>
</table>

* p<.05; ** p<.01; *** p<.001
Part II: Qualitative study

Examining and comparing frequencies of codes (step 2 and 3).

The frequencies and percentages of positive and negative comments for both periods are displayed in Table 3.4. The top 3 of codes most often given to positive comments were: asking questions, explaining clearly and performing correctly for the first period (1982-1984). The top 3 of codes given to positive comments shifted only slightly for the second period (2000-2001); codes most often given to positive comments were: asking questions, explaining clearly and reassuring. The top 3 codes given to negative comments remained the same between the two periods: explaining clearly, performing correctly and listening attentively. Especially the codes explaining clearly and performing correctly were given to positive as well as negative comments. Based on these top frequencies of assigned codes per group, we could not identify relevant shifts in the number of comments between the two periods; similar topics were positively and negatively mentioned when participants rated videotaped consultations from the two periods.

Table 3.4 Frequencies and percentages of positive and negative comments for both periods

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+ Positive</td>
<td>- Negative</td>
<td>+ Positive</td>
<td>- Negative</td>
</tr>
<tr>
<td></td>
<td>comments</td>
<td>comments</td>
<td>comments</td>
<td>comments</td>
</tr>
<tr>
<td>General communication aspects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Preparing patient</td>
<td>11 (2%)</td>
<td>4 (1%)</td>
<td>7 (1%)</td>
<td>6 (1%)</td>
</tr>
<tr>
<td>– Asking questions</td>
<td>102 (16%)</td>
<td>25 (6%)</td>
<td>132 (17%)</td>
<td>27 (6%)</td>
</tr>
<tr>
<td></td>
<td>▲</td>
<td></td>
<td>▲</td>
<td></td>
</tr>
<tr>
<td>– Explaining clearly</td>
<td>90 (14%)</td>
<td>57 (13%)</td>
<td>141 (18%)</td>
<td>48 (11%)</td>
</tr>
<tr>
<td></td>
<td>▲</td>
<td>▼</td>
<td>▲</td>
<td>▼</td>
</tr>
<tr>
<td>– Acting efficiently</td>
<td>6 (1%)</td>
<td>23 (5%)</td>
<td>17 (2%)</td>
<td>26 (6%)</td>
</tr>
<tr>
<td>– Taking time for patient</td>
<td>31 (5%)</td>
<td>8 (2%)</td>
<td>33 (4%)</td>
<td>5 (1%)</td>
</tr>
<tr>
<td>– Talking intelligibly</td>
<td>3 (1%)</td>
<td>5 (1%)</td>
<td>3 (0.5%)</td>
<td>4 (1%)</td>
</tr>
<tr>
<td>– Communicating appropriately</td>
<td>14 (2%)</td>
<td>31 (7%)</td>
<td>29 (4%)</td>
<td>18 (4%)</td>
</tr>
</tbody>
</table>

- Table 3.4 continues -
### - Table 3.4 continued -

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>+ Positive comments</td>
<td>- Negative comments</td>
<td>+ Positive comments</td>
</tr>
<tr>
<td>Making decisions</td>
<td>19 (3%)</td>
<td>27 (6%)</td>
</tr>
<tr>
<td>Performing correctly</td>
<td>67 (11%) ▲</td>
<td>39 (9%) ▼</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>+ Positive comments</td>
<td>- Negative comments</td>
<td>+ Positive comments</td>
</tr>
<tr>
<td>Being alert to psychosocial signals</td>
<td>22 (4%)</td>
<td>13 (3%)</td>
</tr>
<tr>
<td>Giving advice</td>
<td>16 (3%)</td>
<td>7 (2%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Positive comments</td>
<td>- Negative comments</td>
<td>+ Positive comments</td>
</tr>
<tr>
<td>Offering continuity</td>
<td>27 (4%)</td>
<td>21 (5%)</td>
</tr>
<tr>
<td>Being involved</td>
<td>36 (6%)</td>
<td>6 (1%)</td>
</tr>
<tr>
<td>Treating respectfully</td>
<td>27 (4%)</td>
<td>30 (7%)</td>
</tr>
<tr>
<td>Listening attentively</td>
<td>47 (7%)</td>
<td>48 (11%)</td>
</tr>
<tr>
<td>Reassuring</td>
<td>38 (6%)</td>
<td>23 (5%)</td>
</tr>
<tr>
<td>Treating patient as equal</td>
<td>26 (4%)</td>
<td>33 (8%)</td>
</tr>
<tr>
<td>Following the patient’s story</td>
<td>37 (6%)</td>
<td>25 (6%)</td>
</tr>
<tr>
<td>Showing appraisal</td>
<td>8 (1%)</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>Respecting privacy</td>
<td>0 (0%)</td>
<td>6 (1%)</td>
</tr>
<tr>
<td>Total</td>
<td>627</td>
<td>433</td>
</tr>
</tbody>
</table>

▲ Top 1-3 codes of positive comments
▼ Top 1-3 codes of negative comments

---

**Themes of comments on consultations from 1982-1984 (step 4)**

Our next step in the qualitative analysis was to examine the content of the comments for each period and to indicate overall themes. Analysis of the comments on the videotaped consultations of the first period identified seven overall themes that were visible across the different quality dimensions: clarity of explanations, asking for consent, responsibility of GP, problem-focused approach, active listening, supporting patient, and showing respect.

As instructed, many participants reacted on the clarity of explanations given by GPs. They criticized consultations in which explanations were either unclear or were completely lacking “Does not give any explanation to the patient about complaint and cause”. Second, we identified asking for consent in...
the decision-making process as a theme. Participants judged asking for patient's agreement positively, e.g. “Asks whether the lady wants to take the medicine”. Third, participants valued GPs’ initiatives to assume responsibility, e.g. “Takes the initiative to check the blood pressure”. We also identified a problem-focused approach as a theme that emerged from the comments. Participants focused on whether GPs asked questions to get a complete picture of the problem, e.g. “Asks about any possible causes of the complaints”, gave patients enough room to share their problem, e.g. “The doctor let the patient talk before taking her blood pressure”, and followed the patient’s story. In addition, active listening, e.g. “Listens carefully to the complaint of dizziness” and supporting the patient, e.g. “Indicates that patient most probably does not have anaemia, but agrees on doing a blood test to reassure the patient” were themes mentioned in the comments. Last, showing respect was a theme that emerged, e.g. “Opens the door for patient, asks ‘how are you?’ and shakes hands to greet”.

Themes of comments on consultations from 2000-2001 (step 4)

Analysis of the comments on the videotaped consultations of the second period identified seven overall themes that were visible across the different quality dimensions: clarity of explanations and giving reasons for advice, exploring patients’ preferences, shared responsibility, solution-focused approach, active listening, supporting patient, and showing respect.

Again, participants judged consultations on the clarity of explanations given by GPs, but in addition they also gave feedback on whether these explanations were accompanied by clear reasons, e.g. “Gives reasons for her advice”. Second, we identified exploring patients’ preferences in the decision-making process as a point of focus, e.g. “GP asks: What do you want?”. Consultations in which GPs provided alternative options also received positive remarks by patient observers. Third, there were comments regarding shared responsibility in the consultations from the second period, e.g. “GP says: Great that you are thinking about how to maintain your health” and “GP says: If you experience any problems with the medication, please come back sooner”. However, even though participants considered sharing responsibility positively, GPs were also expected to be more proactive in monitoring the patient’s health, e.g. “There is no clear follow-up appointment”. Furthermore, we identified a solution-focused approach in the second period. Participants looked at whether GPs actively work towards a solution
for the health problem, e.g. “GP immediately takes action regarding the blood pressure” and whether they work efficiently, e.g. “GP summarizes the complaints and takes the lead to prevent the patient from repeating her complaints over and over again”. In addition, active listening and supporting the patient were themes visible in comments. Last, participants mentioned whether GPs showed respect towards patients, e.g. “GP says at start of consultation: Mr V., what can I do for you?”. 

Comparison between the two periods based on qualitative assessments (step 5)

When comparing the themes identified from the comments on the two periods, we found that listening, giving support and showing respect were consistent themes in terms of focus in the quality assessments of analogue patients, as well as the terminology used. However, we recognized shifts in the participants’ observations on how GPs explained things to the patient, the decision-making process, the division of roles and responsibilities, and the emphasis on problem-focused communication in the first period versus solution-focused communication in the last period (see Figure 3.1).
Figure 3.1  Comparison between the two periods: shifts and stabilities in focus and terminology of comments

<table>
<thead>
<tr>
<th>Themes of comments and quality dimensions</th>
<th>Focus of comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explaining</td>
<td>Clarity of explanations</td>
</tr>
<tr>
<td>Decision making</td>
<td>Patient's agreement: consent</td>
</tr>
<tr>
<td>Responsibility</td>
<td>GP is responsible</td>
</tr>
<tr>
<td>Approach</td>
<td>Problem-focused</td>
</tr>
<tr>
<td>Listening</td>
<td>Active listening</td>
</tr>
<tr>
<td>Support</td>
<td>Respecting patient</td>
</tr>
</tbody>
</table>
Comparison between both periods on the theme explaining indicated a shift in focus in the analogue patients’ assessments. While comments on consultations from the first period emphasized clarity of explanations, comments regarding the second period emphasized clarity of explanations and giving reasons for the advice.

Furthermore, there was a shift in how participants assessed decision-making. In the first period, they focused on consent and commented on whether GPs asked for patients’ agreement to proposed treatments. In contrast, participants focused on choice in the second period and commented on whether patients’ preferences were taken into account and whether alternative treatment options were presented by GPs. This shift was mostly visible in the positive comments given by participants. Negative comments in both periods referred to the lack of checking for agreement or the absence of making a decision at all.

In addition, the theme of responsibility showed a shift in focus and terminology. Where GPs were considered to have the main responsibility in clinical decisions and monitoring patients’ health in the 1980s, we identified a focus on shared responsibility in the second period. This shift was mainly visible in the positive comments on both periods. The negative comments referred mostly to behaviour indicating that GPs were not proactive enough and not assuming responsibility during the consultation. This was also true for the second period, where shared responsibility was the main focus. Participants gave negative comments when GPs placed all the responsibility on the patient.

Last, the way participants assessed the approach of GPs changed between the two periods. Participants valued a problem-focused approach in the first period, while a solution-focused approach was valued in the second period. The first period received mostly positive comments regarding problem-focused behaviour, while negative comments could refer to not identifying the problem but also to the absence of working on a solution to the problem. In the second period, positive comments referred mostly to solution-focused behaviour, while negative comments referred to not being solution-focused or efficient, but could also refer to a lack or absence of problem-focused behaviour “He did not let the patient finish” or being too business-like in their approach towards the patient.
Discussion

The assessments by analogue patients with hypertension of the quality of doctor-patient communication during consultations indicated that shifts had taken place between the first period and the second. This was visible from the quantitative analyses where we found that biomedical communication and rapport building were positively associated with the assessments of the first period, but not with those of the second period. In addition, we found less variation between consultations on psychosocial and interpersonal quality and more agreement between observers on how to define quality of communication in recent consultations. In the qualitative analyses, we identified shifts in focus and approach; the most important shifts being the shift from problem-focused to solution-focused communication and the shift towards a more egalitarian doctor-patient relationship. The findings of both research methods can be considered complementary; based on our quantitative results we found shifts, but we could not specify which communicative behaviour of the GP was valued more highly in the second period as opposed to the first period. Based on our qualitative results we confirmed and specified the content of shifts and we identified themes that were assessed differently in the second period compared to the first.

Egalitarian doctor-patient relationships

The analogue patients valued GPs’ encouragement of patient involvement (emphasizing patient’s choice, shared responsibility, giving reasons for advice) in consultations from the second period. These findings are in line with the increased attention to patient involvement in general practice [44]; previous research showed that patients want more information from their physicians and may want to actively participate in decision-making processes [45].

Furthermore, participants judged shared responsibility positively, but also gave reacted negatively when the GP did not assume enough responsibility or failed to make a decision. This may seem contradictory; however, it illustrates that concepts such as responsibility and decision making consist of different components. Our findings indicate that analogue patients may distinguish between processes of involvement and decision outcomes, in line with recent literature on shared decision making [46,47]. Future guidelines and decision making tools should therefore respond to
patients’ needs to be involved in decision processes, as opposed to focusing merely on decision outcomes.

Affective communication
There were also some stable quality aspects that participants mentioned in both periods. The quantitative analyses showed that psychosocial communication and personal remarks were positively related to quality assessments of both periods. In the qualitative analyses, we did not identify any shift in focus of comments on the themes listening, support and respect. Previous studies also found that patients are sensitive in perceiving whether they are respected by their physicians and appreciate the opportunity and time given to present their concerns [48,49]. Our findings indicate that the analogue patients valued these aspects regardless of the period of consultations being assessed. Listening to the patients’ story, showing respect and giving support seem to be universal quality indicators from the patient’s perspective. The same results were found in an international multicentre study (GULiVER), where analogue patients from four different countries also put most emphasis on physicians’ affective communication [22,50]. Attention to fostering the doctor-patient relationship has been found to be continuously valued by patients; our study indicated that factors such as respect and listening are conditionally for a ‘good consultation’. However, in postgraduate GP training, it was found that trainees scored higher on more traditional communication skills (e.g. history taking) as compared to affective communication skills such as dealing with emotions and exploration of expectations and feelings [51]. Based on our findings we argue that GPs should prioritize the doctor-patient relationship and put more emphasis in affective communication and attitudinal factors.

Strengths and limitations of the study
We used a combination of quantitative and qualitative research methods. This approach gave us the opportunity to study patients’ views on the quality of doctor-patient communication from different perspectives and enabled a more comprehensive examination of patients’ views including dimensions that may be less obvious [15,43]. In line with our expectations, the results of both methods were complementary; the qualitative analyses of the comments given by analogue patients revealed themes and specified the content of shifts which we were not able to measure with our quantitative
Changes in doctor-patient communication in general practice

data. Furthermore, we examined medical interactions using videotaped real-life general practice consultations with hypertension patients from two distinct periods. Thus, the findings referred to actual behaviour as perceived by uninvolved observers. In addition, the videotaped participants were not aware of the fact that the analyses would focus on hypertension consultations. Video recording is a valid method to examine doctor-patient communication: the influence of the video recorder on participants’ behaviour is marginal [52,53].

A possible limitation of the study is that the assessments of participants were performed retrospectively. Analogue patients judged videotaped consultations that took place approximately 10 or 30 years ago respectively, but they were also influenced by current knowledge and experience. Therefore, the context in which their ratings were conducted is different from the historical context of the videotaped consultations. Since it can be argued that expectations of what is considered a ‘good’ consultation are also subject to change over time, we cannot automatically assume that quality assessments would have been identical if analogue patients had also rated the consultations at the time of recording. Furthermore, our study concerned the communicative behaviour of the GP and not of the patient. However, we expected that the assessments would mainly focus the GPs’ behaviour, since the camera was directed at the GP during the videotaped consultations. In line with this expectation, the notes of the participants referred mostly to the behaviour of the GP. However, to investigate the role of patients during consultations, future research studies should focus more explicitly on patients’ contribution to quality of doctor-patient communication. Our study indicates that independent observers such as analogue patients should be instructed explicitly to also reflect on patients’ behaviour during consultations. Another possible weakness is that the majority of the observed consultations concerned hypertension repeat visits and the participants were hypertension patients. Therefore, we need to be cautious with the generalizability of our findings. Future studies should therefore focus on different consultation types, in order to make more general assertions regarding changes in doctor-patient communication. Our study indicated the importance of affective communication by GPs in hypertension consultations, which prompts for further investigation on changes in affective communication during other consultation types, such as consultations about psychosocial problems as opposed to somatic problems.
Conclusion

Summarizing, this study indicates that analogue patients recognize shifts in the quality of doctor-patient communication from two different periods, including a shift from problem-focused communication to solution-focused communication, and that they value an egalitarian doctor-patient relationship. Evidence-based medicine and attention to the process of shared decision making are aspects of the medical interaction that are valued by patients, as long as GPs do not lose sight of conditional factors such as listening and respect.
References


Changes in doctor-patient communication in general practice


Chapter 3


Talking about psychosocial problems:
an observational study on changes in doctor-patient communication in general practice between 1977 and 2008

Abstract

Objective
To examine whether GPs’ communication styles have changed since the introduction and implementation of clinical guidelines for psychosocial problems in Dutch general practice in the 1990s.

Methods
From a database of 5,184 consultations videotaped between 1977 and 2008, 512 consultations assessed by GPs as ‘completely psychosocial’ were coded with RIAS (Roter Interaction Analysis System). The 121 consultations prior to and 391 consultations after implementation of guidelines were analyzed whether communication styles have changed over time.

Results
We found that GPs were more likely to consider consultations to be mainly (17%) or completely (12%) psychosocial after the implementation of guidelines. They gave more biomedical and psychosocial information and advice in the second period compared to the first period. We also found that empathy decreased over time (frequency of empathic statements by GPs changed from 2.9 – 3.2 to 1.4 – 1.6 between periods).

Conclusion
Communication in psychosocial consultations has changed; GPs have become more focused on task-oriented communication (asking questions, giving information and advice) and less on showing empathy.

Practice implications
GPs face the challenge of integrating an evidence-based approach of applying guidelines that promote active symptom exploration with understanding patients’ personal contexts and giving room to their emotions.

Keywords
doctor-patient communication; general practice; psychosocial problems; observational study; changes
Introduction

Developments in medical and psychological care influence the way general practitioners (GPs) deal with psychosocial aspects of patients’ presented problems. In 1959, GPs of the Dutch College of General Practitioners stated that GP care had to be continuous, integrative and personal [1]. With this agreement, GP care was explicitly placed in a broader societal and emotional context and not limited to a biomedical framework. GPs started to emphasize the importance of understanding the meaning of illness for patients rather than merely diagnosing medical diseases [2]. Problem behavior of patients (behavior related to psychosocial aspects of patients’ life) was considered as starting point for GPs to deal with patients’ health complaints [3]. During a doctor’s visit, GPs should get a clear and complete idea of patients’ reasons to seek GP care. A system to classify patients’ reasons for encounter was developed (RFEC: Reason for Encounter Classification) to motivate GPs to use these reasons as starting point for further action, such as providing treatment or advice [4]. In a Dutch study on morbidity in general practice in the period 1978-1982, all minor psychological problems were coded by an overall label ‘emotional disorders’, while only classic psychiatric diseases – such as dementia, schizophrenia, and manic depressive disorder – were categorized separately [5]. In this study, over 80% of the registered mental disorders were classified into the overall label ‘emotional disorders’. This indicates an emphasis on acknowledging general emotional problems, rather than diagnosing psychiatric diseases. During this period, also attention was paid to the prevention of somatic fixation; a process in which patients or GPs focus exclusively on the physical aspects of complex health problems that may also include psychosocial aspects, such as anxiety or depression [6-8]. In 1987, the Dutch National Association of General Practitioners described the tasks and responsibilities of GPs, which was used as the main framework for the profession of GPs [9]. In line with previous ideas on continuous, integrative and personal care, it was again emphasized that family care and taking into account emotional aspects of health problems were part of GPs tasks and responsibilities. In the 1970s and 1980s, GP care was characterized by an approach in which GPs were motivated to understand the patient as a ‘whole’ and to understand the personal contexts surrounding patients’ presentation of psychological, social, or physical health problems.
From the 1990s, more emphasis was placed on evidence-based medicine with the introduction of clinical guidelines in Dutch general practice. GPs’ need to categorize social and psychological problems grew and they were more often encouraged to diagnose psychological disorders with psychiatric classification schemes such as the Diagnostic Statistical Manual (DSM) of the American Psychiatric Association [10]. For example, somatic symptoms associated with psychosocial problems, could now be diagnosed as somatization disorders as described in the DSM. The DSM approach of categorizing mental distress by counting symptoms was also applied in the development of clinical guidelines for psychological problems in general practice. In 1994, the Dutch College of General Practitioners published the national clinical guideline for depression [11]. In the years that followed, clinical guidelines for other psychological problems, such as anxiety disorders were introduced [12]. Today, there are eight clinical guidelines specifically for psychological problems and the use of guidelines is widely implemented in general practice in the Netherlands [13]. In the past decades, the integrative approach of understanding patients within their personal contexts (What is the meaning of the illness for the patient?) has been replaced by a more evidence-based approach in which symptoms are listed and categorized (How can the illness of the patient be defined?).

These changes in the approach of psychosocial problems in general practice may also have implications for the communication between doctors and patients in the consultation room. In line with Rogers’ client-centered approach, in which empathy and unconditional positive regard were keywords, GPs were encouraged to let patients talk freely during consultations in the 1970s and 1980s [14]. Studies on doctor-patient communication show the importance of listening, personal attention and empathy during consultations [15,16]. However, there are indications that GPs’ communication styles have changed and GPs engage more in giving information in recent years [17]. Possibly, the introduction of clinical guidelines for psychosocial problems in general practice has motivated general practitioners to focus more on providing a structured consultation by specific question asking and giving information or advice, rather than inviting patients to talk freely. While shifts in communication styles by GPs were found during consultations discussing hypertension [17], it is unknown whether these shifts are also visible during consultations that are
Changes in doctor-patient communication in general practice

psychosocial in nature. GPs tend to communicate differently when psychosocial issues are perceived, compared to consultations in which only biomedical problems are perceived [18,19]; we therefore cannot automatically assume that previously found shifts in communication styles towards giving more information during hypertension consultations also account for consultations psychosocial in nature.

Hypotheses

The aim of this study is to investigate whether changes in general practice regarding psychosocial problems also influenced doctor-patient communication in the consultation room. We consider the introduction of clinical guidelines (1990s) as a major turning point in the history of general practice in the Netherlands and we therefore compare consultations prior to and after the implementation of these guidelines.

First, we investigate how often GPs attribute psychosocial aspects to health problems prior to and after the implementation of clinical guidelines. Attention to psychosocial aspects of health complaints has been promoted starting from the inception of the Dutch College of General Practitioners in 1956, but may also be affected by the emphasis put on evidence-based medicine in the 1990s. We therefore expect that GPs less often attribute psychosocial aspects of health problems in recent years.

Second, we hypothesize a change in symptoms discussed during consultations considered psychosocial by GPs. Consultations considered psychosocial by GPs can contain talk about either psychological, social, or physical symptoms. With the increased focus on diagnosing psychological disorders according to guidelines, we expect an increase of explicit psychological symptoms discussed during consultation, and a decrease of social symptoms (such as marital or work-related problems) that generally do not lead to diagnosing psychological disorders.

Third, we hypothesize a shift towards a more structured and focused communication style by GPs in recent years. We expect an increase over time in question asking and giving information or advice by GPs. We also expect less room for patients to talk freely about emotions, and therefore less affect oriented communication by GPs, such as showing empathy. Especially during consultations in which psychosocial problems are not openly discussed, we expect that GPs are less likely to engage in emotion related talk.
Methods

Videotaped consultations

Consultations in general practice in the Netherlands were videotaped in the period from 1977 to 2008 as part of previous studies on doctor-patient communication [20-27]. We included consultations from six previous study samples (1977-1980, 1982-1984, 1989, 1995, 2000-2001, 2007-2008) and assigned these samples to the two periods of interest (prior to clinical guidelines: 1977-1980, 1982-1984 and 1989; versus after introduction of guidelines: 1995, 2000-2001, 2007-2008). The total database of available videotaped consultations consisted of 5,184 consultations (1,895 consultations in the first period, 3,289 consultations in the second period). First, for each consultation, the GP assessed the degree to which psychosocial aspects determined the consultation on a scale from 1 to 5 (1 = completely somatic; 2 = mainly somatic; 3 = both somatic and psychosocial; 4 = mainly psychosocial; 5 = completely psychosocial). This assessment of psychosocial aspects was executed similarly on all study samples (“Can you indicate on a 5-point scale whether psychosocial aspects also play a role in the complaints?”). Second, we specified whether psychological, social or physical symptoms were presented by patients for the consultations that were considered by GPs as completely psychosocial (150 consultations in the first period, 394 consultations in the second period). We used the International Classification for Primary Care (ICPC) codes that were available for all consultations in the database to specify the three symptom groups. Third, we observed and analyzed communicative behavior. Owing to deterioration in the technical quality of some videotaped consultations, we excluded 31 consultations (28 consultations in the first period, 3 in the second period). Moreover, one consultation was excluded because we did not have patient characteristics (e.g. age) of this consultation. Our analyses of verbal communication were conducted on 512 consultations (121 consultation in the first period, 391 consultation in the second period), assessed by the GP as ‘completely psychosocial’. Total visit durations were timed in seconds for all videotaped consultations in the database.

The studies were carried out in accordance with Dutch privacy legislation. All participating physicians and patients gave their informed consent.
Changes in doctor-patient communication in general practice

Measures of communicative behavior
Communication patterns were rated using the Roter Interaction Analysis System (RIAS), which is a widely-used international observation system with proven validity and reliability [28]. In the RIAS-coding system the communication units are defined as utterances - the smallest discriminable speech segment to which a classification may be assigned. The RIAS distinguishes task-oriented utterances (asking questions, giving information, counseling) from affect-oriented utterances (personal remarks, showing empathy, reassurance). Although different observers were involved in coding the consultations of the datasets, all coders had been extensively trained according to the same training protocol using the RIAS-manual [29,30]. The manual was updated several times between the different time periods. However, there were no relevant changes in the updated manuals that interfered with the data analyses [16]. In all study samples, approximately 10% of the observed consultations were coded by two or more coders to calculate inter-rater reliability. The double coding of consultations was done in-between coding. The different coders regularly met and discussed any questions regarding the RIAS coding scheme to minimize discrepancies between coders. The inter-rater reliability of RIAS categories with a mean concurrence higher than 2% was consistently found to be satisfactory; for the study samples 1977-1980 and 1982-1984 we calculated a mean intra class correlation (ICC) of 0.85 (range 0.60-0.98) and for the 2007-2008 sample the mean intra class correlation (ICC) was 0.75 (range 0.25-0.99). In the study samples from 1989, 1995 and 2000-2001 previously calculated reliability coefficients as calculated with Pearson’s r ranged from 0.57 to 0.94.

Statistical analyses
To take into account the variation in communication skills between GPs, we used multilevel models with random intercepts (multilevel Poisson regression analysis for count variables). The multilevel models consisted of consultations (level 1) nested within GPs (level 2). The number of consultations per GP in the sample varied between 1 and 15. However, since 80% of the GPs had five or less consultations included in the present study, we could not calculate or report on intraclass correlations. We included dummy variables for both periods (1977-1989 versus 1995-2008) and examined estimated frequencies for the three types (psychological, social
and physical symptoms). First, we used multilevel Poisson regression models to estimate frequencies of communication categories by GPs per consultation. In these analyses, we included duration of consultation, as well as patient's age and gender, and GP's age and gender as centered covariates. Second, based on these estimates we tested whether there were differences in communication categories between the two periods.

Results

Consultation characteristics

Medical and demographic characteristics of the study sample are provided in Table 4.1. The patients in the second period (1995-2008) were significantly older than those in the first period ($t(510) = 3.59, p < .001$). The percentages in gender of patients did not differ significantly between the two periods (Pearson’s Chi$^2(1) = 0.82, p = .37$). Mean duration of consultations in the first period was 11 minutes and 13 seconds; in the second period consultations had a mean duration of 14 minutes and 55 seconds - significantly longer than during the first period ($t(510) = 5.03, p < .001$). Moreover, the GPs in the second period (1995-2008) were older ($t(200) = 5.76, p < .001$) and had more years of working experience ($t(174) = 3.69, p < .001$) compared to the first period (1977-1989). The percentage female GPs was higher in the second period (31% versus 7%) compared to the first period (Pearson’s Chi$^2(1) = 10.15, p < .01$). To control for differences in consultation and GP characteristics between the two periods, we included these variables as centered covariates in our analyses.
## Table 4.1  Medical and demographic characteristics of the study sample (consultations considered completely psychosocial by GPs)

<table>
<thead>
<tr>
<th>Patient characteristics</th>
<th>1977-1989 (N = 121)</th>
<th>1995-2008 (N = 391)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>mean 38.2</td>
<td>mean 44.6</td>
</tr>
<tr>
<td></td>
<td>sd 16.0</td>
<td>sd 17.7</td>
</tr>
<tr>
<td></td>
<td>range 8 - 88</td>
<td>range 1 - 95</td>
</tr>
<tr>
<td>Gender</td>
<td>number</td>
<td>number</td>
</tr>
<tr>
<td>Male</td>
<td>45</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td>percentage 37%</td>
<td>percentage 33%</td>
</tr>
<tr>
<td>Female</td>
<td>76</td>
<td>263</td>
</tr>
<tr>
<td></td>
<td>percentage 63%</td>
<td>percentage 67%</td>
</tr>
<tr>
<td>Symptoms and diagnoses (based on ICPC chapters)</td>
<td>number</td>
<td>percentage</td>
</tr>
<tr>
<td>P: Psychological</td>
<td>51</td>
<td>34%</td>
</tr>
<tr>
<td>Z: Social problems</td>
<td>37</td>
<td>35%</td>
</tr>
<tr>
<td>A: General and unspecified</td>
<td>33</td>
<td>22%</td>
</tr>
<tr>
<td>L: Musculoskeletal</td>
<td>21</td>
<td>14%</td>
</tr>
<tr>
<td>R: Respiratory</td>
<td>19</td>
<td>13%</td>
</tr>
<tr>
<td>N: Neurological</td>
<td>16</td>
<td>11%</td>
</tr>
<tr>
<td>X: Female genital system and breast</td>
<td>14</td>
<td>9%</td>
</tr>
<tr>
<td>S: Skin</td>
<td>13</td>
<td>8%</td>
</tr>
<tr>
<td>K: Circulatory</td>
<td>10</td>
<td>7%</td>
</tr>
<tr>
<td>D: Digestive</td>
<td>9</td>
<td>6%</td>
</tr>
<tr>
<td>H: Ear</td>
<td>4</td>
<td>3%</td>
</tr>
<tr>
<td>F: Eye</td>
<td>4</td>
<td>3%</td>
</tr>
<tr>
<td>U: Urology</td>
<td>3</td>
<td>2%</td>
</tr>
</tbody>
</table>

*Table 4.1 continues*
### Table 4.1 continued

#### Patient characteristics

<table>
<thead>
<tr>
<th>Category</th>
<th>1977-1989 (N = 121)</th>
<th>1995-2008 (N = 391)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T: Endocrine, metabolic and nutritional</td>
<td>2 1% 14</td>
<td>11 3% 11</td>
</tr>
<tr>
<td>B: Blood, bloodforming organs, lymphatics, spleen</td>
<td>1 1% 15</td>
<td>7 2% 15</td>
</tr>
<tr>
<td>Y: Male genital system</td>
<td>1 1% 15</td>
<td>4 1% 17</td>
</tr>
<tr>
<td>W: Pregnancy, childbirth, family planning</td>
<td>0 0% 17</td>
<td>10 3% 13</td>
</tr>
</tbody>
</table>

#### GP characteristics

<table>
<thead>
<tr>
<th>Category</th>
<th>1977-1989 (N = 42)</th>
<th>1995-2008 (N = 162)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>mean 40.6 sd 7.4 range 29-56</td>
<td>mean 47.3 sd 6.5 range 32-62</td>
</tr>
<tr>
<td>Gender</td>
<td>number 39 percentage 93%</td>
<td>number 111 percentage 69%</td>
</tr>
<tr>
<td>Male</td>
<td>39 93%</td>
<td>111 69%</td>
</tr>
<tr>
<td>Female</td>
<td>3 7%</td>
<td>51 31%</td>
</tr>
<tr>
<td>Experience</td>
<td>mean 12.3 sd 7.0 range 0-26</td>
<td>mean 17.7 sd 8.4 range 0-34</td>
</tr>
<tr>
<td>Years working as a GP</td>
<td>12.3 7.0 0-26</td>
<td>17.7 8.4 0-34</td>
</tr>
</tbody>
</table>

a) Patients presented 1 to 4 complaints and not all patients explicitly presented their psychological or social problems; therefore, the percentages of the different chapters do not count up to 100%.

b) ICPC: International Classification for Primary Care

c) Age and working experience was missing for 2 GPs in the period 1977-1989. Working experience was missing for 26 GPs in the period 1995-2008. These data could not be recovered.
Changes in number and percentages of consultations considered psychosocial

In the first period, 8% of the total consultations were completely psychosocial according to the GP (see Figure 4.1). In the second period, 12% of the consultations were completely psychosocial. Likewise, the percentage of consultations considered mainly psychosocial was higher in the second period (17%) compared to the first period (13%). Furthermore, GPs considered relatively fewer consultations to be completely somatic (34%) or mainly somatic (20%) in the second period compared to the first period (39% completely somatic, 22% mainly somatic). These percentages in the degree to which psychosocial aspects determined the consultation assessed by GPs differed significantly between the two periods (Pearson’s Chi² (4) = 40.25, p < .001).

Figure 4.1 Degree to which psychosocial aspects determined the consultation according to GPs

Within the group of consultations that were assessed as completely psychosocial (N = 544), the number and percentages of the three symptom groups (psychological symptoms, social symptoms and physical symptoms) for both periods are displayed in Figure 4.2. We found that symptoms
discussed during consultations differed significantly between years (Pearson’s Chi²(2) = 24.90, \( p < .001 \)).

The expected increase of explicit psychological symptoms discussed during consultations was not visible from our data. However, in line with our expectations, we found a decrease of social symptoms discussed during consultations considered psychosocial in nature by GPs. The percentage of consultations involving physical symptoms was higher in the second period (56% in 1995-2008 versus 42% in 1977-1989). GPs determined more consultations to be completely psychosocial when only somatic symptoms were discussed during recent consultations.

Figure 4.2 Symptoms discussed during consultations that are considered completely psychosocial in nature

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical symptoms</td>
<td>63 (47%)</td>
<td>273 (64%)</td>
</tr>
<tr>
<td>Social symptoms</td>
<td>36 (24%)</td>
<td>33 (10%)</td>
</tr>
<tr>
<td>Psychological symptoms</td>
<td>51 (34%)</td>
<td>142 (35%)</td>
</tr>
</tbody>
</table>

Changes in verbal communication by GPs

The estimated frequencies (with 95% confidence intervals) of communicative categories by GPs per consultation for the three consultation types are displayed in Table 4.2.

We found significant changes in task-oriented communication between the two periods, such as asking questions, and giving information and counseling; GPs gave more biomedical information and counseling - for instance explanations about medication usage - during the second period, in
Consultations involving psychological symptoms (Chi-square = 11.18, \( p < .001 \)) and physical symptoms (Chi-square = 13.66, \( p < .001 \)). Consultations involving social symptoms showed a decrease in biomedical information and counseling (Chi-square = 8.41, \( p < .01 \)), but an increase in psychosocial questions (Chi-square = 17.39, \( p < .001 \)). There was also an increase in psychosocial questions for consultations involving psychological symptoms (Chi-square = 3.86, \( p < .05 \)) and in psychosocial information and counseling (psychological: Chi-square = 9.96, \( p < .01 \), social: Chi-square = 4.92, \( p < .05 \), physical symptoms: Chi-square = 11.13, \( p < .001 \)).

We found significant changes between the two periods in affect-oriented communication; GPs engaged in more personal remarks (‘chit-chat’) during the second period in consultations involving physical symptoms (Chi-square = 6.43, \( p < .05 \)). Empathy decreased over time when psychological (Chi-square = 9.51, \( p < .01 \)) or social symptoms (Chi-square = 6.97, \( p < .01 \)) were discussed. GPs also showed less concern and reassurance during recent consultations (psychological: Chi-square = 7.16, \( p < .01 \), social: Chi-square = 25.90, \( p < .001 \), physical symptoms: Chi-square = 22.97, \( p < .001 \)).
<table>
<thead>
<tr>
<th>Task-oriented communication</th>
<th>1977-1989 (^{a,b}) (N = 121)</th>
<th>1995-2008 (N = 391)</th>
<th>(\text{Chi}^2) (^{\alpha})</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>estimate</td>
<td>95% CI</td>
<td>estimate</td>
</tr>
<tr>
<td>Biomedical questions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td>4.9</td>
<td>3.7 – 6.4</td>
<td>4.6</td>
</tr>
<tr>
<td>Social</td>
<td>3.2</td>
<td>2.3 – 4.3</td>
<td>3.0</td>
</tr>
<tr>
<td>Physical</td>
<td>6.1</td>
<td>4.7 – 8.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Biomedical info &amp; counseling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td>15.3</td>
<td>12.6 – 18.6</td>
<td>22.5</td>
</tr>
<tr>
<td>Social</td>
<td>13.9</td>
<td>11.3 – 17.1</td>
<td>9.5</td>
</tr>
<tr>
<td>Physical</td>
<td>20.9</td>
<td>17.2 – 25.3</td>
<td>31.8</td>
</tr>
<tr>
<td>Psychosocial questions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td>6.2</td>
<td>4.8 – 8.0</td>
<td>8.3</td>
</tr>
<tr>
<td>Social</td>
<td>4.4</td>
<td>3.3 – 5.8</td>
<td>9.1</td>
</tr>
<tr>
<td>Physical</td>
<td>3.0</td>
<td>2.3 – 4.0</td>
<td>3.8</td>
</tr>
<tr>
<td>Psychosocial info &amp; counseling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td>5.3</td>
<td>3.9 – 7.3</td>
<td>9.6</td>
</tr>
<tr>
<td>Social</td>
<td>12.0</td>
<td>8.8 – 16.4</td>
<td>18.4</td>
</tr>
<tr>
<td>Physical</td>
<td>2.7</td>
<td>2.0 – 3.8</td>
<td>5.2</td>
</tr>
</tbody>
</table>

- Table 4.2 continues -
<table>
<thead>
<tr>
<th>Affect-oriented communication</th>
<th>1977-1989 (N = 121)</th>
<th>1995-2008 (N = 391)</th>
<th>Chi² a)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>estimate</td>
<td>95% CI</td>
<td>estimate</td>
</tr>
<tr>
<td>Personal remarks, 'chit-chat'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“How was your holiday?”</td>
<td>Psychological</td>
<td>4.2</td>
<td>3.2 – 5.6</td>
</tr>
<tr>
<td></td>
<td>Social</td>
<td>4.9</td>
<td>3.7 – 6.6</td>
</tr>
<tr>
<td></td>
<td>Physical</td>
<td>3.5</td>
<td>2.6 – 4.6</td>
</tr>
<tr>
<td>Empathy, verbal attention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“You must be worried”</td>
<td>Psychological</td>
<td>3.2</td>
<td>2.2 – 4.8</td>
</tr>
<tr>
<td></td>
<td>Social</td>
<td>2.9</td>
<td>1.9 – 4.4</td>
</tr>
<tr>
<td></td>
<td>Physical</td>
<td>2.0</td>
<td>1.3 – 3.1</td>
</tr>
<tr>
<td>Concern, reassurance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“I really think this will help”</td>
<td>Psychological</td>
<td>2.5</td>
<td>1.8 – 3.5</td>
</tr>
<tr>
<td></td>
<td>Social</td>
<td>2.4</td>
<td>1.7 – 3.5</td>
</tr>
<tr>
<td></td>
<td>Physical</td>
<td>3.4</td>
<td>2.4 – 4.7</td>
</tr>
</tbody>
</table>

a) Estimated with multilevel Poisson regression models
b) Included covariates: consultation duration, age of patient, gender of patient, age of gp, gender of gp (working experience was not included in the models because of multicollinearity)
c) Significant Chi²-tests indicate significant differences between the two periods

\* p < .05, ** p < .01, *** p < .001
Discussion

During the period 1995-2008, GPs were more likely to consider consultations to be mainly or completely psychosocial by comparison with the period 1977-1989. When looking at the symptoms discussed during consultations that are considered psychosocial in nature by GPs, we found that the percentage of consultations involving psychological symptoms remained the same between the two periods. However, we found a relative increase in physical symptoms and a decline in social symptoms over time. Regarding verbal communication by GPs in these consultations, we found an increase in task-oriented communication (asking questions, giving information and advice). Although personal remarks increased for consultations involving physical symptoms, we found a decline in empathy and reassurance in recent years.

Diagnosing and treating psychological disorders

We expected an increased focus on diagnosing psychological disorders over time. However, the percentage of psychological symptoms in our sample did not change. Although GPs are using national clinical guidelines for psychological problems such as depression and anxiety since the 1990s, they do not necessarily more often apply psychological categorization during their consultations. Studies on ‘mindlines’ (collectively reinforced internalized tacit guidelines) show that GPs rely on informal as well as formal sources and are not merely dependent on clinical guidelines to deal with psychological problems [31]. Regarding their communication styles, we found that GPs did not ask more biomedical or psychosocial questions in recent years when psychological symptoms were discussed during consultations. However, there was an increase in biomedical information and advice over time. Likely, GPs consult guidelines when providing patients with information and advice on biomedical treatment (e.g. medication) of psychological disorders such as depression. The increase in information and advice, while the number of questions by GPs remained the same over time, indicates a shift in attention from the first half (uncovering patients’ health problem) to the second half of the consultation (decision making process).
Changes in doctor-patient communication in general practice

GPs’ tasks regarding social problems
In line with our expectations, we found that patients and GPs less often discussed social symptoms during consultations assessed by GPs as completely psychosocial. This finding may be related to changes in GPs’ perceptions about their tasks and responsibilities. In a previous study, it was found that in 2001 GPs less often indicated that dealing with patients’ social problems, such as marital problems or work-related problems, was part of their tasks and responsibilities as compared to 1987 [32]. Social factors, including family situations of patients, were mentioned explicitly in the tasks and responsibilities as described in 1987 by the Dutch National Association of General Practitioners [9]. In the revised description of GPs’ tasks and responsibilities, that was published in 2012 by the Dutch National Association of General Practitioners and the Dutch College of General Practitioners, family factors were less explicitly mentioned [33]. When discussing social symptoms, GPs engaged less in biomedical communication but more in psychosocial communication (asking questions and giving information and advice) in recent years. This indicates that GPs’ communication styles have become more tailored to social aspects when social symptoms are explicitly presented during consultations.

Dealing with patients’ physical presentation of psychosocial issues
We found that GPs more often relate physical symptoms to psychosocial aspects in recent years; possibly they have become more aware of ‘hidden’ psychosocial problems. Part of these physical symptoms are medically unexplained physical symptoms (MUPS); symptoms that are presented somatically by patients, but cannot be linked by GPs to a physiological cause. Although GPs seem to attribute psychosocial aspects of physically presented symptoms more often, GPs in our study did not engage in more psychosocial questions or more empathy. However, patients with medically unexplained physical symptoms indicate to have a wish for more emotional support [34]. A previous study showed that the majority of patients who present their symptoms somatically and do not explicitly mention psychosocial problems were found to readily acknowledge a psychosocial contribution to their distress [35]. GPs should consider patients’ preferences for emotional support and take a more active role in making hidden psychosocial problems more explicit during consultations. A comprehensive biopsychosocial approach in which both
somatic and psychosocial aspects are jointly explored is necessary to prevent frustration on both sides (GP and patient) when dealing with medically unexplained physical symptoms [36].

**GPs’ responsiveness to emotions**
Affective communication has different functions; while personal remarks and ‘chit-chat’ contribute to fostering the relation between GPs and patients, the function of empathy and reassurance is to respond adequately to emotions [37]. Our study shows that in recent years, GPs engage more often in personal remarks, but are less responsive to emotions. Previous studies that focused on other GP consultation types found similar declines in empathy [17,27]. The decrease in empathy expressed by GPs is not specific to consultations that are considered psychosocial; however, it can be argued that attention to emotions is essential to support patients with psychosocial problems. Recent research on doctor-patient communication has established links with placebo effects, acknowledging communicative factors, such as empathy and reassurance, as an important part of the healing process for patients [38]. As studies on placebo effects and communication have shown, there is a relatively consistent effect of providing support and reassurance by doctors on patients’ health outcomes [39]. In addition, patients consider empathy to be one of the most important aspects of the doctor-patient interaction when looking at videotaped medical consultations [40-42]. To further investigate GPs’ responsiveness to emotions, future studies on GPs’ reactions directly following patients’ expression of concerns (sequential research methods) could provide more insight on how GPs deal with worries of patients.

**Strengths and limitations of the study**
A strong point of this study is that we examined consultations using videotaped real-life general practice consultations from 1977 to 2008, enabling a comparison of doctor-patient communication over a thirty year period. Video recording is a valid method of examining doctor-patient communication: the influence of the video recorder on participants is marginal [43,44]. In addition, videotaped participants were not aware of the fact that the analyses would focus on psychosocial problems.

A possible weakness of the study is that different topics can be discussed within one general practice consultation; a patient may present
several symptoms, some of which symptoms are unrelated to the psychosocial problem identified by a GP. To ensure that psychosocial problems were the main topic discussed, we selected consultations based on GPs’ assessment of the consultation as being completely psychosocial and divided these consultations into three types (psychological, social or physical symptoms) according to the International Classification of Primary Care (ICPC). Another point of attention is that we did not include consultations in which patients were not able to clearly express their psychosocial problems and were therefore not recognized by GPs as being completely psychosocial. However, GPs are often unable to identify psychosocial issues during consultations [45,46]. Since we did not have data on patients’ possible unvoiced agendas during consultations, we had to base our sample on GPs’ assessments of psychosocial aspects. Future research should also include patients’ assessments of psychosocial issues related to their health problems, in order to examine whether GPs communication styles during consultations differ for identified psychosocial problems versus unrecognized psychosocial problems. Finally, we focused on the communicative behavior of GPs and not on the communication by patients. A rationale for this choice is that developments such as the implementation of clinical guidelines influence GPs’ behavior primarily, and can only have an indirect effect on the way patients communicate during consultations.

Conclusion

Communication during consultations, which are considered psychosocial in nature by GPs, has changed; when comparing consultations prior to and after the implementation of national clinical guidelines in the 1990s, communication styles of GPs have become more task-oriented, characterized by asking questions, giving information and advice. GPs are less focused on affective communication (empathy and reassurance) in recent years.

Practice implications

Our study supports a shift in GPs’ approach to psychosocial problems; the integrative approach of understanding patients within their personal contexts has been replaced by a more evidence-based approach. The evidence-based approach promotes exploring symptoms in a systematic
manner, however, patients in recent years seem to have less room to express emotions freely. We believe that especially during consultations that are psychosocial in nature, GPs should prioritize engaging in affective communication. GPs were previously found to use more emotion-handling skills and engage in more strategies for managing emotional problems after following a training program [47]. While affective communication can be considered a skill, which can be thought in training, communication is also considered an attitude or ‘way of being’ [48]. Therefore, more explicit attention to adopting an ‘open’ attitude that provides room for patients to talk freely is needed. GPs now face the challenge of integrating evidence-based approaches with understanding patients’ personal contexts and giving room to their emotions.
References


Arborelius E, Timpka T. In what way may videotapes be used to get significant information about the patient-physician relationship? Med Teach 1990; 12: 197-208.


Concerns voiced by patients and GPs’ responses during psychosocial visits in primary care: a historical cross-sectional study

Butalid L, Verhaak PFM, Van Dulmen S, Bensing JM. Concerns voiced by patients and GPs’ responses during psychosocial visits in primary care: a historical cross-sectional study. Accepted for publication in BMC Family Practice.
Abstract

Background
In a recent study comparing psychosocial consultations prior to and after the implementation of national clinical guidelines in the Netherlands, we found that general practitioners (GPs) showed less empathy in the more recent consultations. As a consequence, patients possibly have less scope to express their worries. The objective is to investigate whether patients have become more reluctant to open up about their concerns during psychosocial consultations and how GPs respond.

Methods
Consultations from previous study samples videotaped between 1977 and 2008 and categorized by GPs as 'completely psychosocial' were selected for the present study. These consultations were observed using the Verona Coding Definitions of Emotional Sequences (VR-CoDES) to capture cues and concerns expressed by patients and GPs' immediate responses. We compared consultations prior to (N = 121) and after (N = 391) introduction of national clinical guidelines in the 1990s.

Results
In 92% of the consultations, patients presented at least one worry. These were most often expressed implicitly. However, the proportion of consultations containing at least one explicit concern changed from 24% to 37% over time. The increased number of expressed cues and concerns was partly explained by a change in GP characteristics; the latter sample contained more female and more experienced GPs. Furthermore, cues and concerns were more often expressed during later phases of consultations in recent years.
Conclusions
Our study shows that patients have become somewhat more explicit in expressing their worries. However, GPs need to be aware that, still, most worries are expressed implicitly and that new concerns may appear towards the end of consultations.

Key words
doctor-patient relations; general practice; cues; empathy; psychosocial factors
Background

In a recent comparison between consultations prior to and after the implementation in the 1990s of national clinical guidelines in the Netherlands, general practitioners (GPs) showed less empathy during more recent consultations considered psychosocial by GPs as compared to similar consultations from the 1980s [1]. There has been a shift over time towards greater emphasis on structured questioning, giving information or advice, and providing less emotional support by showing empathy [1,2]. In recent years, an integrative approach of understanding patients within their personal contexts seems to have been replaced by a more evidence-based approach characterized by active symptom exploration (see Box 5.1). As a consequence, patients may feel less inclined to share their worries.

To adequately handle psychosocial problems, GPs rely on the expression of emotions by their patients. Most expressed emotions relate to psychosocial issues such as depressive feelings, stress or concerns about life changes [3]. However, patients are likely to express implicit cues to underlying emotions and worries, rather than voicing emotional problems explicitly and spontaneously [4]. These implicit cues are often vague and ambiguous and require further exploration by the GP and empathy from GPs may encourage patients to be more open and direct in further expressions of their worries [5]. Addressing and responding to patients’ emotions and psychosocial issues early on during consultations may reduce the tendency for patients to wait to express remaining problems or concerns until the closing stages of the visit [6].

Because of the previously found reduction in empathy showed by GPs, new questions arise regarding the role of patients during consultations. It can be argued that patients’ manner of communicating has changed over time like GPs’ communication styles have. Patients may have become less explicit in sharing their concerns, which could explain the decrease in empathy by GPs. Despite a broad consensus on the importance of activating patients and increasing their autonomy in health care [7], patients do not seem to be as participatory as expected during consultations [2]. Moreover, studies on the closing phase of general practice consultations show that patients often present ‘doorknob’ concerns [6]. It can be argued that if patients have indeed become more reluctant to share their worries in recent
years, they may postpone expressing their concerns until later phases of the consultations. On the other hand, the emphasis put on active symptom exploration with the introduction of Dutch clinical guidelines in general practice may motivate GPs to actively invite patients to share their concerns regarding psychosocial problems during the earlier, diagnostic, phase of consultations.

Box 5.1 The changing context of discussing psychosocial problems in primary care

In 1959, the Dutch College of General Practitioners stated that general practice care had to be continuous, integrative and personal. ¹ Under this agreement, GP care was explicitly placed in a broader societal and emotional context and not limited to a biomedical framework. In the years that followed, and more specifically during the 1970s and 1980s, there was greater emphasis on the importance of understanding patients within their personal contexts and GPs were encouraged to let patients talk freely during consultations. Rogers’ client-centered approach ² - in which empathy and unconditional positive regard were keywords - was used as a framework for dealing with psychosocial problems in general practice.

From the 1990s, more emphasis was placed on evidence-based medicine with the introduction of clinical guidelines in Dutch general practice. These guidelines mostly emphasized active symptom exploration by GPs. In 1994, the Dutch College of General Practitioners published the national clinical guideline for depression. ³ Today, there are eight clinical guidelines specifically for psychological problems and the use of guidelines is widely implemented in general practice in the Netherlands. ⁴ In the past decades, the integrative approach of understanding patients within their personal contexts (What is the meaning of the illness for the patient?) has been replaced by a more evidence-based approach (How can the illness of the patient be defined?).

Aims of the study
We aim to study the role of patients during psychosocial consultations prior to and after the introduction of guidelines on psychological disorders in Dutch general practice in the 1990s. We decided to further investigate previously examined consultations that were considered psychosocial by GPs [1], and focus on whether patients share their worries and how GPs respond to these worries.

First, given the previously found decline in empathy by GPs over time, we expect to find a decline in expression of concerns or cues to underlying concerns by patients during recent consultations. Second, we aim to explore the timing of expressed worries of patients during consultations from the two time periods. Greater reluctance among patients to share their worries may also imply postponement of expressing concerns. On the other hand, active symptom exploration may motivate GPs to invite patients to share concerns during diagnostic phases of consultations. Last, we expect that GPs have become less responsive and inviting to patients’ worries.

Methods
Videotaped consultations
Dutch general practice consultations were videotaped in the period from 1977 to 2008 as part of previous studies on doctor-patient communication [8-13]. Participating GPs were followed for at least a full day (or a series of consecutive days). An unmanned camera was placed in the consultation room to record consultations. A research assistant was present in the waiting room to ask patients’ informed consent for participating in the study and answer any additional questions. All participating GPs and patients provided some general background information in a basic questionnaire (e.g. age, gender, assessment of psychosocial aspects), which enabled the selection of consultations for additional observational research in the present study. We included consultations from six previous study samples (1977-1980, 1982-1984, 1989, 1995, 2000-2001, 2007-2008) and assigned these samples to the two periods of interest (prior to clinical guidelines: 1977-1980, 1982-1984, 1989, versus after the introduction of guidelines: 1995, 2000-2001, 2007-2008). The total database of available videotaped consultations
Changes in doctor-patient communication in general practice consisted of 5,184 consultations (1,895 in the first period, 3,289 in the second period). First, the GP from each videotaped consultation assessed the degree to which psychosocial aspects determined the consultation (1 = completely somatic; 2 = mainly somatic; 3 = both somatic and psychosocial; 4 = mainly psychosocial; 5 = completely psychosocial). Second, we selected consultations assessed by the GP as being ‘completely psychosocial’. GPs assessed 150 consultations in the first period and 394 consultations in the second period as psychosocial. Owing to deterioration in the technical quality of some videotaped consultations, we excluded 31 consultations (28 in the first period, 3 in the second period) and one consultation was excluded because patient characteristics (e.g. age) were not available. Our analyses were conducted on 512 consultations (121 in the first period, 391 in the second period) and we specified whether psychological (N = 185), social (N = 62) or physical (N = 265) symptoms were presented by patients during these consultations by using the International Classification for Primary Care (ICPC) codes that were available for all consultations in the database.

The studies were carried out in accordance with Dutch privacy legislation. The privacy regulations were approved by the Dutch Data Protection Authority. According to Dutch legislation, approval by a medical ethics committee was not required for these observational studies. All participating physicians and patients gave their informed consent.

**Measures of communicative behaviour**

Patient cues and concerns were coded using the Verona coding definitions of emotional sequences, VR-CoDES-CC [14]. A cue is defined as ‘a verbal or non-verbal hint which suggests an underlying unpleasant emotion but lacks clarity’ (“I cannot stand it anymore”), while a concern is ‘a clear and unambiguous expression of an unpleasant current or recent emotion where the emotion is explicitly verbalized’ (“I feel very anxious”). GPs’ immediate responses (lag 1) to cues and concerns were coded using VR-CoDES-P [15]. We only coded lag 1 responses, which refers to the first utterance after a voiced cue or concern, while excluding delayed responses (e.g. lag 2 or 3). Responses were coded according to two major conceptual factors: explicitness (explicit versus non-explicit responses) and space provision for further disclosure of the cue of concern (space-providing versus space-reducing responses). See Box 5.2 for definitions and examples of the response categories.
Box 5.2 Response categories by GPs according to VR-CODES-P

<table>
<thead>
<tr>
<th>Non-explicit, reducing space</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignore</td>
<td>No reference is made whatsoever to the concern</td>
</tr>
<tr>
<td>Shutting down</td>
<td>Denying patient’s concern “Oh don’t be silly”</td>
</tr>
<tr>
<td>Information advice</td>
<td>Giving information or advice in a way that does not open space for further disclosure “Headaches are very common”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-explicit, providing space</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Silence</td>
<td>Silence to invite patient to talk about the concern</td>
</tr>
<tr>
<td>Back channel</td>
<td>Minimal prompt to invite patient to talk about the concern “Hmm” “Ok…”</td>
</tr>
<tr>
<td>Acknowledgement</td>
<td>Implicit comment beyond the minimal back channel “I can see that”</td>
</tr>
<tr>
<td>Active invitation</td>
<td>Clearly inviting, but implicit in relation to the concern “Would you like to tell me more?”</td>
</tr>
<tr>
<td>Implicit empathy</td>
<td>Expression of feeling or understanding, without explicit reference to the concern “It must be hard”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Explicit, reducing space</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Switching</td>
<td>Response that changes the frame of reference of the concern “Did you have similar symptoms in the past?”</td>
</tr>
<tr>
<td>Postponing</td>
<td>Reducing space for talking about the concern at this moment “I would like to talk with you about this in a minute”</td>
</tr>
<tr>
<td>Information advice</td>
<td>Acknowledging concern, but giving information or advice that does not open space for further disclosure “You do not need to worry, headaches are very common”</td>
</tr>
<tr>
<td>Active blocking</td>
<td>Mentioning concern and explicitly refusing to talk about it “Worrying does not do you any good”</td>
</tr>
</tbody>
</table>

- Box 5.2 continues -
Explicit, providing space

<table>
<thead>
<tr>
<th>Content acknowledgement</th>
<th>Echoing, reflecting back, giving paraphrases or summarizing content of concern</th>
<th>“You’ve been experiencing headaches for a week now”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content exploration</td>
<td>Asking about content</td>
<td>“How long have you’ve been experiencing headaches?”</td>
</tr>
<tr>
<td>Affect acknowledgement</td>
<td>Echoing, reflecting back, giving paraphrases or summarizing emotional aspects of concern</td>
<td>“You’re worried”</td>
</tr>
<tr>
<td>Affect exploration</td>
<td>Asking about emotional aspects</td>
<td>“Why are you worried?”</td>
</tr>
<tr>
<td>Empathy</td>
<td>Expression of feeling or understanding, with explicit reference to the concern</td>
<td>“I understand that the pain is worrying you”</td>
</tr>
</tbody>
</table>

Approximately 10% of the observed consultations were coded by the two coders involved in this study. The interrater reliability of the VR-CoDES-CC and VR-CoDES-P was found to be satisfactory to good. We calculated an intraclass correlation (ICC) of 0.56 for concerns and 0.89 for cues. The mean intraclass correlation of the GPs’ response categories was 0.71 (range 0.43 - 0.86).

Total visit duration was timed in seconds for all videotaped consultations in the database. We timed the initial opening statements by patients, which starts after GPs solicitations (“What can I do for you today?”) and ends when GPs initiate the next phase of exploration by asking either open-ended (“Tell me more about the headaches”) or closed-ended questions (“Is it worse in the morning or in the evening?”). The last phase of the consultation can be considered the therapeutic phase of the consultation and is characterized by GPs giving information and advice. The interrater reliability of the durations of the different phases during consultations (initial opening statements, exploration including physical examination, and giving information and advice) was found to be good. The mean intraclass correlation of the duration of the phases was 0.93 (range 0.90 – 0.99).
Statistical analyses
To account for the variation in communication skills between GPs, we used multilevel models with random intercepts (multilevel Poisson regression analysis for count variables). The multilevel models consisted of consultations (level 1) nested within GPs (level 2). The number of consultations per GP in the sample varied between 1 and 15. However, since 80% of the GPs had five or less consultations included in the present study, we could not calculate or report on intraclass correlations. We included dummy variables for both periods (1977-1989 versus 1995-2008) and examined estimated frequencies for the three types of symptoms (psychological, social and physical symptoms). First, we used multilevel Poisson regression models to estimate frequencies of communication categories by GPs per consultation. In these analyses, we included duration of consultation, patient characteristics and GP characteristics as centred covariates. Second, based on these estimates we tested whether there were differences in communication categories between the two periods.

Results
Consultation characteristics
Mean duration of consultations in the second period (1995-2008) was significantly longer than during than in the first period (see Table 5.1). When comparing the patient and GP characteristics between the two time periods, we found that patients and GPs were significantly older in 1995-2008 compared to 1977-1989. The gender ratios of patients did not differ significantly between the two periods, but the percentage of female GPs was higher in the second period (31% versus 7%).
Changes in doctor-patient communication in general practice

Table 5.1 Characteristics of the study sample (consultations considered completely psychosocial by GPs)

<table>
<thead>
<tr>
<th></th>
<th>1977-1989</th>
<th>1995-2008</th>
<th>Comparison *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient and consultation characteristics</td>
<td>(N = 121)</td>
<td>(N = 391)</td>
<td></td>
</tr>
<tr>
<td>Consultation duration</td>
<td>mean(sd)</td>
<td>mean (sd)</td>
<td>t (510) = 5.03 ***</td>
</tr>
<tr>
<td>Duration</td>
<td>11min,13sec</td>
<td>14min,55sec</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>mean (sd)</td>
<td>mean (sd)</td>
<td>t (510) = 3.59 ***</td>
</tr>
<tr>
<td>Years</td>
<td>38.2 (16.0)</td>
<td>44.6 (17.7)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>N (%)</td>
<td>N (%)</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>45 (37%)</td>
<td>128 (33%)</td>
<td>Chi² (1) = 0.82</td>
</tr>
<tr>
<td>GP characteristics †</td>
<td>1977-1989</td>
<td>1995-2008</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>mean (sd)</td>
<td>mean (sd)</td>
<td>t (200) = 5.76 ***</td>
</tr>
<tr>
<td>Years</td>
<td>40.6 (7.4)</td>
<td>47.3 (6.5)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>N (%)</td>
<td>N (%)</td>
<td>Chi² (1) = 10.15 **</td>
</tr>
<tr>
<td>Male</td>
<td>39 (93%)</td>
<td>111 (69%)</td>
<td></td>
</tr>
<tr>
<td>Professional experience</td>
<td>mean (sd)</td>
<td>mean (sd)</td>
<td>t (174) = 3.69 ***</td>
</tr>
</tbody>
</table>

* Analyzed with T-tests for continuous variables (consultation duration, age, professional experience) and Pearson’s Chi² for categorical variables (gender).

† Age and working experience was missing for 2 GPs in the period 1977-1989. Working experience was missing for 26 GPs in the period 1995-2008. These data could not be recovered.

Expression of cues and concerns by patients in both periods

In 92% of the consultations in this study, patients presented at least one cue or concern. The proportion of consultations containing at least one implicit cue did not differ between the two periods. However, the proportion of consultations containing at least one explicit concern was larger in the second period (see Table 5.2).

When looking at the timing of the cues and concerns expressed by patients, we see that the percentage of cues and concerns voiced during initial statements and exploration was higher in the first period compared to the second period. Patients more often expressed cues and concerns during the last phase of information and advice in more recent consultations (see Table 5.2).

Patients expressed on average 8.64 cues and 0.80 concerns per consultation. Because of the low frequencies of explicit concerns, we
calculated estimated frequencies of voiced cues and concerns combined. When comparing these frequencies between the two periods, while controlling for patient characteristics and GP characteristics, we did not find significant changes. Since patient characteristics and GP characteristics differed between the two periods, we checked whether frequencies of expressed cues and concerns changed when running our models without the patient characteristics or the GP characteristics as covariates. Running the model without patient characteristics did not change our findings. However, we found that in the model without GP characteristics the number of cues and concerns in consultations involving psychological symptoms differed significantly between the two periods (Chi-square = 4.69, p < .05). This indicates that differences in GP characteristics between the two study samples account for differences in the number of cues and concerns expressed by patients.
Table 5.2  Voiced cues and concerns by patients in both periods

<table>
<thead>
<tr>
<th></th>
<th>1977-1989 (N = 121)</th>
<th>1995-2008 (N = 391)</th>
<th>Chi² *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultations with at least one</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cue</td>
<td>106 (88%)</td>
<td>363 (93%)</td>
<td>3.29</td>
</tr>
<tr>
<td>Consultations with at least one</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>concern</td>
<td>29 (24%)</td>
<td>144 (37%)</td>
<td>6.8**</td>
</tr>
<tr>
<td>Timing of cues and concerns:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cues and concerns during initial</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>statements</td>
<td>138 (15%)</td>
<td>442 (11.5%)</td>
<td>8.64**</td>
</tr>
<tr>
<td>Cues and concerns during exploration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>phase</td>
<td>337 (36.5%)</td>
<td>1,168 (30%)</td>
<td>13.67***</td>
</tr>
<tr>
<td>Cues and concerns during therapeutic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>phase</td>
<td>449 (48.5%)</td>
<td>2,259 (58.5%)</td>
<td>29.11***</td>
</tr>
</tbody>
</table>

Estimated frequencies of cues and concerns per consultation †

<table>
<thead>
<tr>
<th></th>
<th>estimate (95% CI)</th>
<th>estimate (95% CI)</th>
<th>Chi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1: complete model ‡</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td>7.7 (6.1 - 9.6)</td>
<td>9.9 (8.8 - 11.1)</td>
<td>3.57</td>
</tr>
<tr>
<td>Social</td>
<td>9.5 (7.5 - 12.1)</td>
<td>10.2 (8.7 - 11.9)</td>
<td>0.22</td>
</tr>
<tr>
<td>Physical</td>
<td>6.0 (4.7 - 7.6)</td>
<td>5.7 (5.1 - 6.4)</td>
<td>0.10</td>
</tr>
<tr>
<td>Model 2a:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>without patient characteristics §</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td>7.8 (6.2 - 9.8)</td>
<td>9.6 (8.6 - 10.8)</td>
<td>2.48</td>
</tr>
<tr>
<td>Social</td>
<td>9.7 (7.6 - 12.3)</td>
<td>10.3 (8.8 - 12.0)</td>
<td>0.16</td>
</tr>
<tr>
<td>Physical</td>
<td>5.7 (4.5 - 7.3)</td>
<td>5.9 (5.2 - 6.6)</td>
<td>0.05</td>
</tr>
<tr>
<td>Model 2b:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>without GP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td>7.7 (6.2 - 9.5)</td>
<td>10.0 (8.9 - 11.1)</td>
<td>4.69 *</td>
</tr>
<tr>
<td>Social</td>
<td>8.9 (7.1 - 11.1)</td>
<td>10.2 (8.8 - 11.9)</td>
<td>1.01</td>
</tr>
<tr>
<td>Physical</td>
<td>5.9 (4.7 - 7.4)</td>
<td>5.8 (5.2 - 6.4)</td>
<td>0.03</td>
</tr>
</tbody>
</table>

* Significant Chi²-tests indicate significant differences between the two periods, *p <0.05, **p <0.01, ***p <0.001.
† Estimated with multilevel Poisson regression models
‡ Included covariates: consultation duration, age of patient, gender of patient, age of GP, gender of GP
§ Included covariates: consultation duration, age of GP, gender of GP
|| Included covariates: consultation duration, age of patient, gender of patient

GPs’ responses to cues and concerns in both periods

In both periods, GPs’ responses to cues and concerns were mostly characterized by giving space for patients to talk about their concerns in a non-explicit way (see Table 5.3): being silent or giving minimal responses
Chapter 5

(back channels) were the most frequent ways for GPs to respond to cues and concerns. We did not find changes in response categories by GPs when comparing the two periods.

### Table 5.3 Estimated frequencies of responses to cues and concerns by GPs

<table>
<thead>
<tr>
<th></th>
<th>1977-1989*†</th>
<th>1995-2008</th>
<th>Chi² ‡</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N = 121)</td>
<td>(N = 391)</td>
<td></td>
</tr>
<tr>
<td>Non-explicit, reducing space</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td>0.3 (0.2 - 0.6)</td>
<td>0.6 (0.4 - 0.8)</td>
<td>3.16</td>
</tr>
<tr>
<td>Social</td>
<td>0.5 (0.2 - 0.8)</td>
<td>0.5 (0.3 - 0.8)</td>
<td>0.01</td>
</tr>
<tr>
<td>Physical</td>
<td>0.6 (0.4 - 1.1)</td>
<td>0.4 (0.3 - 0.5)</td>
<td>3.04</td>
</tr>
<tr>
<td>Non-explicit, providing space</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td>4.4 (3.4 - 5.8)</td>
<td>5.7 (5.0 - 6.6)</td>
<td>2.80</td>
</tr>
<tr>
<td>Social</td>
<td>6.1 (4.6 - 8.1)</td>
<td>6.7 (5.5 - 8.1)</td>
<td>0.24</td>
</tr>
<tr>
<td>Physical</td>
<td>3.4 (2.5 - 4.5)</td>
<td>3.3 (2.9 - 3.8)</td>
<td>0.00</td>
</tr>
<tr>
<td>Explicit, reducing space</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td>1.0 (0.7 - 1.4)</td>
<td>1.2 (0.9 - 1.4)</td>
<td>0.47</td>
</tr>
<tr>
<td>Social</td>
<td>0.8 (0.5 - 1.2)</td>
<td>0.8 (0.6 - 1.2)</td>
<td>0.03</td>
</tr>
<tr>
<td>Physical</td>
<td>0.8 (0.5 - 1.1)</td>
<td>0.7 (0.6 - 0.8)</td>
<td>0.20</td>
</tr>
<tr>
<td>Explicit, providing space</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td>1.4 (1.0 - 2.1)</td>
<td>1.7 (1.4 - 2.1)</td>
<td>0.69</td>
</tr>
<tr>
<td>Social</td>
<td>1.5 (1.0 - 2.2)</td>
<td>1.8 (1.3 - 2.5)</td>
<td>0.58</td>
</tr>
<tr>
<td>Physical</td>
<td>0.7 (0.5 - 1.2)</td>
<td>1.0 (0.8 - 1.2)</td>
<td>1.55</td>
</tr>
</tbody>
</table>

* Estimated with multilevel Poisson regression models
† Included covariates: consultation duration, age of patient, gender of patient, age of GP, gender of GP
‡ Significant Chi²-tests indicate significant differences between the two periods.

Discussion

Our study shows that patients are likely to express their worries during primary care psychosocial consultations and that the proportion of consultations with at least one explicit concern was higher during more recent consultations. The number of expressed cues and concerns was partly explained by a change in GP characteristics; the latter sample contained more female GPs and more experienced GPs. Furthermore, we found that late-arising concerns were common in our study sample and were even more likely during more recent consultations. We found that GPs responded...
mostly by non-explicit communicative behavior, such as being silent or giving minimal responses to indicate that they were listening, but we did not find indications that GPs reduced the space for emotional disclosure.

**Patients’ expressiveness**

In contrast to our expectations, we did not find a decrease in cues and concerns expressed by patients over time. Patients have become more familiar with psychosocial problems such as anxiety and depression and therefore may be more willing to open up about their concerns. Information on mental health has become readily available, for example through the Internet. Internet users seem to have high levels of mental health literacy and are well able to answer knowledge-based questions regarding psychological disorders [16]. Interestingly, although the proportion of explicitly expressed concerns increased over time, the number of expressions during consultations did not change. Patients’ expressiveness has become somewhat more explicit, but not more extensive over time.

Patients tend to share their worries most often during the therapeutic phase as opposed to the initial or exploration phase of consultations. Late arising cues and concerns were more likely in recent consultations, compared to older consultations. With the introduction of clinical guidelines in the 1990s, more emphasis is placed on giving information and advice [1,2]. It is important that GPs are aware that providing new information to patients may also elicit new questions and concerns.

**Facilitating communication by GPs**

We found that the number of expressions of cues and concerns was partly dependent on GP characteristics. GPs in the second sample (1995-2008) were older, had more professional experience, were more often female, and were more likely to evoke more expressions of cues and concerns by patients. This is in line with previous research that shows that patients are more likely to share psychosocial issues and feel more empowered when talking to female GPs [17]. Accordingly, feminization of Dutch general practice care may partly account for changes in the way GPs facilitate communication about emotional issues.

Moreover, the GPs in our study were not likely to respond in an explicit way to patients’ concerns, either by showing empathy or by further exploration of the worries voiced. This indicates that GPs remain relatively
passive listeners, rather than actively providing emotional support for their patients. Studies in psychiatric settings show similar findings; physicians often hesitated to respond and were likely to respond with passive listening skills as opposed to engaging in active emotion-focused skills [18]. In some situations indirect responses to patients’ emotions may be less intrusive and more adequate than explicit responses. However, active solicitation of concerns by GPs can prevent late arising, or even unvoiced, concerns [6]. Recent versions of clinical guidelines for depression and anxiety published in 2012 refer to the importance of empathy during consultations involving these psychological problems [19]. We consider this allusion to the importance of empathy in clinical guidelines as a positive development.

Strengths and limitations of the study
One of the strengths of this study is that we used the concerns and cues of patients as the starting point for our observations and analyses and focused on the patient's role. Furthermore, we examined consultations using videotaped real-life general practice consultations over a thirty-year period, enabling a comparison of doctor-patient communication prior to and after the introduction of national clinical guidelines in the 1990s. Video recording is a valid method of examining doctor-patient communication: the influence of the video recorder on participants is marginal [20] and the participants were unaware that the analyses would focus on psychosocial problems.

A possible weakness of the study is that we did not include consultations in which GPs were unable to recognize or identify psychosocial issues during consultations. We decided to only include consultations assessed by GPs as completely psychosocial, since we believe that cues and concerns by patients are most likely to be clearly expressed in these types of consultations. However, to be able to generalize the results to other health problems there is a need for replication studies within other consultation types, which may include more hidden psychosocial problems. Another limitation of our study is that we did not specify the nature and content of expressed cues and concerns by patients. Therefore, we do not know for each specific expressed cue or concern whether the patient was referring to psychosocial issues. However, due to the low frequency of the cues and concerns voiced, we decided to not further categorize these as this would complicate the interpretation of quantitative analyses and we could not guarantee interrater reliability. Furthermore, we only looked at
immediate responses (lag 1) of GPs after patients’ expressed cues and concerns; we did not include GPs’ delayed or random empathic responses. This may explain why the previously found decline in empathy - assessed over the entire consultation - was not found in the present study. We decided to look at lag 1 responses following expressed worries because we were interested in GPs’ immediate responsiveness; it can be argued that empathic responses are most appropriate and supportive when following directly after patients’ expressed worries.

**Conclusions**

The aim of our study was to look at patients’ expressed worries and GPs’ immediate responses during psychosocial consultations in Dutch general practice. In earlier analyses, we found an increase in the proportion of consultations assessed by GPs as being mainly or completely psychosocial, while they gave less room for disclosing emotion-related issues. In the present study, we see that patients have become somewhat more open in expressing their concerns in recent years. We found that expression of worries is partly dependent on GP characteristics; experienced and female GPs were more likely to evoke more expressions of worries compared to less experienced and male GPs. With the changing GP population, the likelihood of expressing worries by patients seems to have changed.

While patients seem to have become somewhat more explicit in sharing their worries, GPs tend to respond mostly implicitly to these concerns. We argue that GPs should be encouraged to also respond explicitly to patients’ concerns, in order to ensure that patients feel heard and understood. Moreover, GPs need to be aware that concerns can appear throughout the consultation; towards the therapeutic phase of the consultation, new questions and concerns may arise, which also deserve full attention and appropriate responses from GPs.
References


Changes in GPs' sensitivity to patients' distress in low back pain consultations

Butalid L, Verhaak PFM, Bensing JM. Changes in GPs’ sensitivity to patients’ distress in low back pain consultations (submitted)
Abstract

Background
The clinical guideline for non-specific low back pain emphasizes the importance of investigating psychosocial factors, such as pain-related distress. However, general practitioners (GPs) may not always be sensitive to patients’ distress.

Aim
In this study, we aim to study GPs’ sensitivity to patients’ distress and communication on psychosocial factors prior to and after the introduction of the clinical guideline for low back pain in 1996.

Design and setting
Consultations in general practice in the Netherlands were videotaped in 1989, 1995, 2001 and 2008 as part of previous studies on doctor-patient communication and were available for secondary analyses in the present study. We selected consultations in which patients presented low back pain complaints (N=150).

Methods
We investigated GPs’ sensitivity to patients’ distress and analyzed the selected consultations using the Roter Interaction Analysis System (RIAS) and the Verona Coding Definitions of Emotional Sequences (VR-CoDES). We then compared the consultations prior to and after the implementation of guidelines.

Results
GPs’ more often acknowledged psychosocial factors during consultations after implementation of the guideline for non-specific low back pain. Moreover, patients more often voiced their worries, while GPs put more emphasis on providing biomedical information and counseling during these consultations.
Conclusions
Despite GPs’ awareness of possible psychosocial factors contributing to consultations, they tend to emphasize biomedical factors rather than supporting their patients emotionally. Patients are likely to voice their worries implicitly, indicating they have a need for emotional support from their GPs.

Keywords
doctor-patient communication; general practice; cues and concerns; low back pain; psychosocial factors

How this study fits in

What is already known?
- Psychological constructs such as pain-related distress and illness beliefs are related to low back pain issues.
- Recognizing patients’ distress is challenging for GPs: patients generally verbalize their worries in a subtle and implicit way.

What does this study add:
- GPs’ more often acknowledged psychosocial factors during consultations after implementation of the guideline for non-specific low back pain in 1996 compared to the period prior to this guideline.
- Although patients are likely to voice their worries during consultations with their GPs, GPs tend to put most emphasis on providing biomedical information rather than supporting their patients emotionally.
Introduction

Low back pain is a common and highly prevalent problem in general practice [1-3]. Psychological constructs such as pain-related distress and illness beliefs are related to low back pain issues [4]; patients with chronic low back pain were found to be more likely to hold incorrect illness beliefs, such as believing that movement can aggravate back pain, compared to patients without chronic back pain [5]. In 1996, the Dutch College of General Practitioners published the national clinical guideline for non-specific low back pain [6] emphasizing the investigation of psychosocial factors that influence patients’ coping behaviors.

One of the challenges in dealing with psychosocial factors in low back pain problems is that patients tend to present their symptoms somatically and generally verbalize their worries and psychosocial problems in a subtle and implicit way [7]. In addition, patients may focus exclusively on somatic explanations for their complaints [8]. A comprehensive biopsychosocial approach in which both somatic and psychosocial aspects are jointly explored is necessary to prevent frustration on both sides (GP and patient) when dealing with physical symptoms without a clear medical cause [9]. Finding common ground in the medical interaction is important for the doctor-patient relationship; unvoiced and unheard needs were found to be associated with less satisfaction and lower symptom improvement [10]. However, GPs may not always be sensitive to distress of patients with low back pain.

An active response from GPs to subtle hints of patients can provide room for the patient’s agenda and worries [11,12]. Attending to patients’ emotions (affective communication) contributes to fostering the relationship between GPs and patients [13] and empathy is considered by patients as one of the most important aspects of the doctor-patient interaction [14]. It is unknown in which way GPs’ sensitivity to distress of patients with low back pain is related to observable communicative behavior.

We aim to study GPs’ sensitivity to patients’ distress and psychosocial communication prior to and after the clinical guideline for non-specific low back pain in 1996. We hypothesize that GPs may be more aware of psychosocial factors related to low back pain after the implementation of this guideline. Furthermore, we expect that GPs’ sensitivity to patients’ distress relates to the voicing of concerns by patients.
Methods

Videotaped consultations
Consultations in general practice in the Netherlands were videotaped in 1989, 1995, 2001 and 2008 as part of previous studies on doctor-patient communication [15-18] and were available for secondary analyses in the present study (N = 4,045). Consultations were routinely assessed by GPs on the contribution of psychosocial factors, while patients complete short questionnaires on distress. We assigned these study samples to the two periods of interest: pre-guideline period (1989, 1995) versus post-guideline period (2001, 2008). Based on the International Classification of Primary Care (ICPC), we selected consultations in which non-specific back pain problems were discussed and excluded consultations in which psychosocial assessments by GPs and assessments of patients’ distress were missing. Our analyses of GPs’ sensitivity to patients’ distress were conducted on 168 consultations (25 from 1989, 6 from 1995, 116 from 2001 and 21 from 2008) of 123 GPs. Owing to deterioration in the technical quality of some videotaped consultations (4 from 1989 and 14 from 2000-2001), the analyses of observed verbal communication were conducted on 150 consultations. The visit durations was timed in minutes and seconds for all videotaped consultations in the study.

The studies were carried out in accordance with Dutch privacy legislation. All participating GPs and patients gave their informed consent.

Defining GPs’ sensitivity to patients’ distress
After each videotaped consultation, GPs assessed the degree to which psychosocial aspects determined the consultations on a scale from 1 to 5 (completely somatic - completely psychosocial). We considered scores of 3 or higher to be an acknowledgement by GPs that psychosocial factors contributed to the presented health problem.

Furthermore, patients from each videotaped consultation indicated whether they experienced general distress before they entered the consultation room. For the consultations from 1995, 2000 and 2008, we used the COOP-WONCA scale [19] to assess patients’ distress (“During the past two weeks... How much have you been bothered by emotional problems such as feeling anxious, depressed, irritable or downhearted and sad?”). The responses were measured on a scale from 1 to 5 (not at all - extremely). Patients with a
score of 3 or higher were considered to experience general distress. For the consultations from 1989, we used the General Health Questionnaire (GHQ-12) [20] to assess patients’ distress. The GHQ consists of 12 items (for example “Have you recently been feeling unhappy and depressed?”) that can be dichotomized between ‘less or no more than usual’ and ‘more than usual’. The sum score indicates the number of items reported as ‘more than usual’. The GHQ-12 is considered a consistent and reliable instrument when used in general population samples [21]. Patients with a score of 2 and higher were considered to experience general distress.

We operationalized GPs’ sensitivity to patients’ distress in four categories: somatic acknowledgement (GP-, P-), psychosocial acknowledgement (GP+, P+), missed psychosocial factors (GP-, P+), and incorrect attribution of psychosocial factors (GP+, P-) based on GPs’ and patients’ assessments of psychosocial issues.

Measures of communicative behavior
Cues and concerns voiced by patients were coded using the Verona coding definitions of emotional sequences, VR-CoDES-CC [22]. A cue is defined as ‘a verbal or non-verbal hint which suggests an underlying unpleasant emotion but lacks clarity’ (“I cannot stand it anymore”), while a concern is ‘a clear and unambiguous expression of an unpleasant current or recent emotion where the emotion is explicitly verbalized’ (“I feel very anxious”).

Communication patterns by GPs were rated using the Roter Interaction Analysis System (RIAS), which is a widely used international observation system with proven validity and reliability [23]. In the RIAS-coding system the communication units are defined as utterances - the smallest discriminable speech segment to which a classification may be assigned. The RIAS distinguishes task-oriented utterances from affect-oriented utterances [24].

Approximately 10% of the observed consultations were coded by at least two different coders. The intrarater reliability scores were consistently found to be satisfactory to good. We calculated an intraclass correlation (ICC) of 0.92 for cues and concerns. The mean intraclass correlation (ICC) of RIAS categories in the 2008 study sample was 0.75 (range 0.25 - 0.99). The intrarater reliability of RIAS categories of the study samples from 1989, 1995 and 2001 were previously calculated with Pearson’s $r$ and ranged from 0.57 to 0.94.
Statistical analyses
We investigated whether GPs’ sensitivity to patients’ distress changed between the two periods with cross tabulations, and we reported on Pearson’s Chi².

Furthermore, to account for the variation in communication skills between GPs, we used multilevel models with random intercepts (multilevel Poisson regression analysis for count variables) to analyze communicative behavior observed with RIAS and VR-CoDES. Using this type of models also enabled controlling for the skewed distribution between the two time periods. The multilevel models consisted of consultations (level 1) nested within GPs (level 2). The number of consultations per GP in the sample varied between 1 and 4. Since most GPs (78%) were included only once in the study sample, we decided not to report on intraclass correlations. We estimated frequencies for the communication categories and included duration of consultation, age and gender of patient, and age and gender of GP as covariates in the analyses. Based on these estimates, we tested whether there were differences between the two periods.

The analyses were conducted using STATA 11 software (Statacorp). Access to the dataset is available from the corresponding author in STATA format for academic researchers interested in undertaking a formally agreed collaborative research project.

Results

Consultation characteristics
Consultation characteristics of the study sample are provided in Table 6.1. GPs in the post-guideline consultations were significantly older than before the guideline (t (119) = 2.57, p <.01). We did not find significant differences on the other consultation characteristics between the two time periods.
### Table 6.1  Characteristics of the study sample by the two periods (168 consultations, 123 GPs)

<table>
<thead>
<tr>
<th></th>
<th>Pre-guideline period</th>
<th>Post-guideline period</th>
<th>Comparison $^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mean (sd)</td>
<td>mean (sd)</td>
<td>$t$ (166)</td>
</tr>
<tr>
<td><strong>Consultation duration</strong></td>
<td></td>
<td></td>
<td>0.18, n.s.</td>
</tr>
<tr>
<td></td>
<td>12 min (5 min, 26 sec)</td>
<td>11 min, 49 sec (4 min, 43 sec)</td>
<td></td>
</tr>
<tr>
<td><strong>Patient characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age $^b$</td>
<td>mean (sd)</td>
<td>mean (sd)</td>
<td>$t$ (164)</td>
</tr>
<tr>
<td></td>
<td>42.3 (16.6)</td>
<td>47.4 (16.1)</td>
<td>1.55, n.s.</td>
</tr>
<tr>
<td>Years</td>
<td>n (%)</td>
<td>n (%)</td>
<td>$\text{Chi}^2$ (1) = 0.07, n.s.</td>
</tr>
<tr>
<td>Male</td>
<td>16 (52%)</td>
<td>67 (49%)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>15 (48%)</td>
<td>70 (51%)</td>
<td></td>
</tr>
<tr>
<td><strong>GP characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age $^b$</td>
<td>mean (sd)</td>
<td>mean (sd)</td>
<td>$t$ (119)</td>
</tr>
<tr>
<td></td>
<td>41.9 (4.8)</td>
<td>46.8 (6.1)</td>
<td>2.57, $p &lt; .01$</td>
</tr>
<tr>
<td>Years</td>
<td>n (%)</td>
<td>n (%)</td>
<td>$\text{Chi}^2$ (1) = 0.10, n.s.</td>
</tr>
<tr>
<td>Male</td>
<td>10 (77%)</td>
<td>80 (73%)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>3 (23%)</td>
<td>30 (27%)</td>
<td></td>
</tr>
<tr>
<td>Professional experience $^b$</td>
<td>mean (sd)</td>
<td>mean (sd)</td>
<td>$t$ (113)</td>
</tr>
<tr>
<td></td>
<td>13.6 (5.6)</td>
<td>17.2 (7.8)</td>
<td>1.46, n.s.</td>
</tr>
</tbody>
</table>

$^a$ Analyzed with oneway-ANOVA with continuous variables (age, professional experience) and Pearson Chi$^2$ with categorical variables (gender)

$^b$ Age of patient was missing in 2 cases, age of GP was missing in 2 cases, and professional experience of GP was missing in 8 cases. These data could not be recovered.
**GPs’ sensitivity to patients’ distress**

GPs showed similar levels sensitivity to patients’ distress (correct somatic or psychosocial acknowledgement versus missed psychosocial factors and incorrect attribution of psychosocial factors) in both periods (55% versus 59%). However, a breakdown of the four categories of GPs’ sensitivity to patients’ distress shows significant differences (Pearson’s Chi² (3) = 8.13, *p* < .05) (see Figure 6.1). In the pre-guideline period, GPs more often showed correct somatic acknowledgement (52% versus 34%), while in the post-guideline period, GPs showed more psychological acknowledgement (25% versus 3%). This also indicates that the proportion of reported distress by patients was higher in the post-guideline period compared to the pre-guideline period.

**Figure 6.1** GPs’ sensitivity to distress on psychosocial factors prior to (1989-1995) and after (2001-2008) implementation of guideline on low back pain

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**Voicing worries by patients**

In 91% of the total consultations in this study, patients presented at least one cue, while only 15% of the consultations contained at least one explicitly expressed concern (see Textbox 6.1 for examples of voiced cues and concerns).
Textbox 6.1 Examples of voiced cues and concerns by patients

Examples of implicit cues voiced by patients

Expressing discomfort and pain:

"The pain in my back was, really, really painful. I could hardly walk!" and
"Yesterday the pain was so intense! I could not do anything at all"

"I really had to... In the mornings... I could hardly move"

Expressing uncertainty of cause or treatment:

"I don’t have a clue what it could be" or "...and then I am in doubt whether
it was a good thing [manual therapy]"

"I just don’t know... It’s so strange..."

Example of explicit concern voiced by patients

Explicitly referring to psychosocial issues:

"I think I am overstressed. That’s why my back is hurting"

"My brother-in-law passed away last week. That was very emotional for me"

Patients voiced on average 5.25 (range 0 - 20) implicit cues and 0.23 (range 0
- 4) explicit concerns per consultation. Because of the low frequency of
explicit concerns, we calculated estimated frequencies of cues and concerns
combined. For consultations with somatic acknowledgement, patients
voiced significantly more cues and concerns after implementation of
guidelines compared to the pre-guideline period (Chi² (1) = 9.51, p <.01) (see
Table 6.2). For the other three categories of GPs’ sensitivity to patients’
distress, we did not find any significant differences between the periods.
Table 6.2  Cues and concerns voiced by patients (N = 150)

<table>
<thead>
<tr>
<th>Cues and concerns by patients per consultation a)</th>
<th>Pre-guideline period</th>
<th>Post-guideline period</th>
<th>Chi2 b)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimated frequency</td>
<td>95% CI</td>
<td>Estimated frequency</td>
</tr>
<tr>
<td>Somatic acknowledgement</td>
<td>1.2 c)</td>
<td>0.6 - 2.3</td>
<td>3.6 d)</td>
</tr>
<tr>
<td>Psychosocial acknowledgement</td>
<td>9.4</td>
<td>3.1 - 28.5</td>
<td>7.0 e)</td>
</tr>
<tr>
<td>Missed psychosocial factors</td>
<td>4.1</td>
<td>2.2 - 7.8</td>
<td>7.2</td>
</tr>
<tr>
<td>Incorrect attribution of psychosocial factors</td>
<td>2.9</td>
<td>1.6 - 5.3</td>
<td>4.7</td>
</tr>
</tbody>
</table>

a) Estimated with multilevel Poisson regression models, included covariates: consultation duration, age of patient, gender of patient, age of GP, gender of GP
b) Significant Chi2 tests indicate significant differences between the two periods, * p < .05, ** p < .01, *** p < .001
c) In the pre-guideline period; the number of cues and concerns per consultation was significantly lower when there was somatic agreement compared to the other three congruence categories
d) In the post-guideline period; the number of cues and concerns per consultation was significantly lower when there was somatic agreement compared to psychosocial agreement and missed psychosocial factors.
e) In the post-guideline period; the number of cues and concerns per consultation was significantly lower when there was incorrect attribution of psychosocial factors compared to psychosocial agreement
Communication styles by GPs

GPs in our study were most likely to ask biomedical questions and give biomedical information and counseling during consultations with presented low back pain complaints (see Table 6.3a). The estimated frequencies of these communication categories ranged from 11.1 to 33.1 biomedical expressions. Psychosocial questions and psychosocial information and counseling occurred much less often during consultations; estimated means on these categories ranged from 0.1 to 2.6. Affect-oriented communication such as personal remarks, empathy, concerns, and reassurance also showed low frequencies during consultations; estimated mean affect-oriented expressions per consultation ranged from 0.8 to 5.1.

We found that more biomedical and psychosocial information and counseling, more psychosocial questions, and more personal talk ('chit-chat') occurred during consultations from the post-guideline period compared to pre-guideline consultations. We did not find any significant differences in empathy, or expressing concerns and reassurance between the two periods.
<table>
<thead>
<tr>
<th>Task-oriented communication</th>
<th>Pre-guideline period</th>
<th>Post-guideline period</th>
<th>Chi² b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimate</td>
<td>95% CI</td>
<td>Estimate</td>
<td>95% CI</td>
</tr>
<tr>
<td>Biomedical questions</td>
<td>11.4</td>
<td>8.6 - 15.2</td>
<td>11.1</td>
</tr>
<tr>
<td>“How often do you experience pain?”</td>
<td>11.4</td>
<td>8.6 - 15.2</td>
<td>11.1</td>
</tr>
<tr>
<td>Biomedical info &amp; counseling</td>
<td>22.3</td>
<td>18.0 - 28.8</td>
<td>33.1</td>
</tr>
<tr>
<td>“Take your medicines 3 times a day”</td>
<td>22.3</td>
<td>18.0 - 28.8</td>
<td>33.1</td>
</tr>
<tr>
<td>Psychosocial questions</td>
<td>0.6</td>
<td>0.3 - 1.2</td>
<td>2.6</td>
</tr>
<tr>
<td>“Do you feel anxious about it?”</td>
<td>0.6</td>
<td>0.3 - 1.2</td>
<td>2.6</td>
</tr>
<tr>
<td>Psychosocial info &amp; counseling</td>
<td>0.1</td>
<td>0.0 - 0.2</td>
<td>2.2</td>
</tr>
<tr>
<td>“You need to get out and meet other people”</td>
<td>0.1</td>
<td>0.0 - 0.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Affect-oriented communication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal remarks, ‘chit-chat’</td>
<td>2.6</td>
<td>1.6 - 4.2</td>
<td>5.1</td>
</tr>
<tr>
<td>“How was your holiday?”</td>
<td>2.6</td>
<td>1.6 - 4.2</td>
<td>5.1</td>
</tr>
<tr>
<td>Empathy, verbal attention</td>
<td>1.1</td>
<td>0.5 - 2.3</td>
<td>1.0</td>
</tr>
<tr>
<td>“You must be worried”</td>
<td>1.1</td>
<td>0.5 - 2.3</td>
<td>1.0</td>
</tr>
<tr>
<td>Concern, reassurance</td>
<td>1.1</td>
<td>0.6 - 2.0</td>
<td>0.8</td>
</tr>
<tr>
<td>“I really think this will help”</td>
<td>1.1</td>
<td>0.6 - 2.0</td>
<td>0.8</td>
</tr>
</tbody>
</table>

Table 6.3a Estimated frequencies of RIAS communication categories by GPs (N = 150)

Estimated with multilevel Poisson regression models. Included covariates: consultation duration, age of patient, gender of patient, age of GP, gender of GP (professional experience was not included in the models because of multicollinearity).

Significant Chi²-tests indicate significant differences between the two periods. * p <.05, ** p <.01, *** p <.001
We also calculated estimated frequencies of the communication categories for each of the categories of GPs' sensitivity to patients' distress (see Table 6.3b). An increase in biomedical and psychosocial information and counseling over time was found in all four categories. Moreover, in consultations in which there was psychosocial acknowledgement fewer biomedical questions were asked in the post-guideline period compared to consultations before the guideline. When there was somatic acknowledgement and when GPs incorrectly attributed psychosocial factors, GPs asked more psychosocial questions during consultations post-guideline compared to consultations from the pre-guideline period. In addition, more personal talk ('chit-chat') occurred during consultations post-guideline in which GPs did not indicate psychosocial issues (somatic acknowledgement and missed psychosocial factors) compared to the pre-guideline period.
Table 6.3b  Estimated frequencies of RIAS communication categories by GPs (N = 150), for each of the categories of GPs’ sensitivity to distress

<table>
<thead>
<tr>
<th>Task-oriented communication</th>
<th>Pre-guideline period</th>
<th>Post-guideline period</th>
<th>Chi² b)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>estimate  95% CI</td>
<td>estimate  95% CI</td>
<td></td>
</tr>
<tr>
<td><strong>Biomedical questions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“How often do you experience pain?”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somatic acknowledgment</td>
<td>10.9  7.7 - 15.4</td>
<td>11.6  9.8 - 13.6</td>
<td>0.09</td>
</tr>
<tr>
<td>Psychosocial acknowledgement</td>
<td>27.8  13.5 - 57.2</td>
<td>10.4  8.7 - 12.4</td>
<td>6.77 **</td>
</tr>
<tr>
<td>Missed psychosocial factors</td>
<td>16.4  10.9 - 24.8</td>
<td>12.3  9.0 - 16.9</td>
<td>1.15</td>
</tr>
<tr>
<td>Incorrect attribution</td>
<td>8.1   5.2 - 12.5</td>
<td>11.1  9.4 - 13.1</td>
<td>1.75</td>
</tr>
<tr>
<td><strong>Biomedical info &amp; counseling</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“Take your medicines 3 times a day”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somatic acknowledgment</td>
<td>24.1  18.2 - 31.9</td>
<td>36.2  32.1 - 40.8</td>
<td>6.75 **</td>
</tr>
<tr>
<td>Psychosocial acknowledgement</td>
<td>7.2   4.0 - 12.9</td>
<td>28.6  25.0 - 32.7</td>
<td>20.08 ***</td>
</tr>
<tr>
<td>Missed psychosocial factors</td>
<td>24.2  17.1 - 34.3</td>
<td>38.5  30.7 - 48.4</td>
<td>4.72 *</td>
</tr>
<tr>
<td>Incorrect attribution</td>
<td>21.6  15.3 - 30.5</td>
<td>32.9  29.2 - 37.1</td>
<td>4.95 *</td>
</tr>
<tr>
<td><strong>Psychosocial questions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“Do you feel anxious about it?”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somatic acknowledgment</td>
<td>0.5   0.2 - 1.2</td>
<td>1.6   1.2 - 2.2</td>
<td>6.19 *</td>
</tr>
<tr>
<td>Psychosocial acknowledgement</td>
<td>3.0   0.5 -16.9</td>
<td>4.2   3.1 - 5.6</td>
<td>0.15</td>
</tr>
<tr>
<td>Missed psychosocial factors</td>
<td>0.4   0.1 - 1.8</td>
<td>1.8   0.9 - 3.5</td>
<td>3.15</td>
</tr>
<tr>
<td>Incorrect attribution</td>
<td>1.0   0.4 - 2.6</td>
<td>2.9   2.2 - 3.9</td>
<td>4.34 *</td>
</tr>
<tr>
<td><strong>Psychosocial info &amp; counseling</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“You need to get out and meet other people”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somatic acknowledgment</td>
<td>0.1   0 - 0.6</td>
<td>1.0   0.6 - 1.5</td>
<td>6.62 *</td>
</tr>
<tr>
<td>Psychosocial acknowledgement</td>
<td>0 (no observations)</td>
<td>4.3   3.0 - 6.3</td>
<td>59.77 ***</td>
</tr>
<tr>
<td>Missed psychosocial factors</td>
<td>0 (no observations)</td>
<td>2.8   1.3 - 6.4</td>
<td>6.43 *</td>
</tr>
<tr>
<td>Incorrect attribution</td>
<td>0.1   0 - 0.5</td>
<td>2.6   1.8 - 3.6</td>
<td>14.62 ***</td>
</tr>
<tr>
<td>Affect-oriented communication</td>
<td>Pre-guideline period a)</td>
<td>Post-guideline period</td>
<td>Chi² b)</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------------</td>
<td>----------------------</td>
<td>--------</td>
</tr>
<tr>
<td><strong>Personal remarks, ‘chit-chat’</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“How was your holiday?”</td>
<td>Somatic acknowledgment</td>
<td>2.4</td>
<td>1.3 - 4.3</td>
</tr>
<tr>
<td></td>
<td>Psychosocial acknowledgment</td>
<td>2.2</td>
<td>0.5 - 9.0</td>
</tr>
<tr>
<td></td>
<td>Missed psychosocial factors</td>
<td>1.5</td>
<td>0.7 - 3.2</td>
</tr>
<tr>
<td></td>
<td>Incorrect attribution</td>
<td>4.0</td>
<td>2.0 - 7.8</td>
</tr>
<tr>
<td><strong>Empathy, verbal attention</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“You must be worried”</td>
<td>Somatic acknowledgment</td>
<td>1.3</td>
<td>0.6 - 3.0</td>
</tr>
<tr>
<td></td>
<td>Psychosocial acknowledgment</td>
<td>5.2</td>
<td>0.8 - 34.8</td>
</tr>
<tr>
<td></td>
<td>Missed psychosocial factors</td>
<td>2.1</td>
<td>0.9 - 5.2</td>
</tr>
<tr>
<td></td>
<td>Incorrect attribution</td>
<td>0.3</td>
<td>0.1 - 1.1</td>
</tr>
<tr>
<td><strong>Concern, reassurance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“I really think this will help”</td>
<td>Somatic acknowledgment</td>
<td>1.1</td>
<td>0.5 - 2.3</td>
</tr>
<tr>
<td></td>
<td>Psychosocial acknowledgment</td>
<td>0.1</td>
<td>0.0 - 0.69</td>
</tr>
<tr>
<td></td>
<td>Missed psychosocial factors</td>
<td>1.7</td>
<td>0.7 - 4.4</td>
</tr>
<tr>
<td></td>
<td>Incorrect attribution</td>
<td>0.9</td>
<td>0.3 - 2.6</td>
</tr>
</tbody>
</table>

Estimated with multilevel Poisson regression models. Included covariates: consultation duration, age of patient, gender of patient, age of GP, gender of GP (professional experience was not included in the models because of multicollinearity).
Significant Chi²-tests indicate significant differences between the two periods. * p <.05, ** p <.01, *** p <.001
Discussion

Summary
Our study shows that GPs’ sensitivity to patients’ distress did not change over time. However, we found a shift over time towards a higher proportion of consultations in which psychosocial factors were acknowledged, also indicating a higher proportion of reported distress by patients. Moreover, we found that patients more often voiced worries during consultations from the post-guideline period in which neither GPs indicated psychosocial problems nor patients reported experience of distress (somatic acknowledgement). GPs’ communication styles was mainly characterized by biomedical communication in both periods and GPs gave more information and counseling after implementation of the clinical guideline.

Strengths and limitations of the study
One of the strengths of this study is that we examined consultations using videotaped real-life general practice consultations from four studies covering almost twenty-years in time (1989 to 2008). We could therefore compare doctor-patient communication prior to and after the introduction of the national clinical guideline for low back pain in the Netherlands. Video recording is a valid method of examining doctor-patient communication; the influence of the video recorder on participants is marginal [25,26] and the participants were unaware that the analyses would focus on low back pain complaints and GPs’ sensitivity to distress.

A possible weakness of our study is that for the patients’ assessments of general distress in 1989 we used the General Health Questionnaire (GHQ-12), while the COOP-WONCA was used to assess general distress according to patients in 1995, 2001 and 2008. However, both scales are considered consistent and reliable measures for assessing general distress in the general practice population [19-21] and the proportion of reported distress did not differ between the two measurement instruments. Moreover, these measurements were focused on general distress; therefore, we cannot ensure that reported distress by patients was related to low back pain. However, while coding voiced cues and concerns by patients, it was clear that most worries were related to the low back pain complaints discussed during the consultation. Another possible weakness is that the number of included consultations was far from equally distributed between the two periods (31
prior to guideline, versus 137 post-guideline). Although our statistical models controlled for this skewed distribution, it is important to be cautious in generalizing the findings. However, cross-sectional historical studies on other consultation types [27,28] contained less skewed datasets and showed similar results on communicative behavior by GPs.

Comparison with existing literature
Our study showed low numbers of consultations in which psychosocial factors were missed by GPs in both periods. The guideline for nonspecific low back pain may possibly reflect GPs' instinctive manner and experience in approaching low back pain complaints. Remarkably, GPs mainly apply a biomedical communication style, despite being well aware of psychosocial factors. These findings are in line with previous studies on doctor-patient communication during other consultation types, such as psychosocial consultations [27] and hypertension consultations [28].

Furthermore, our study showed a shift towards more psychosocial acknowledgement over time, which also indicates more reported distress by patients in the post-guideline period. Patients seem to have become more inclined to report emotional distress over time and have become somewhat more expressive in voicing their worries. Information on mental health has become readily available, for example through the Internet, and Internet users show high levels of health literacy regarding psychological disorders [29].

Implications for research and practice
Interestingly, GPs' sensitivity to patients' distress did not differ between both periods. Possibly, whether GPs correctly attribute psychosocial factors during consultations is mostly dependent on individual differences between patients and between GPs rather than on contextual aspects such as time. Future studies should focus on factors that facilitate and benefit GPs' sensitivity to distress and the detection of psychosocial problems.

Despite GPs' sensitivity to distress when patients present low back pain complaints, they tend to emphasize biomedical factors rather than supporting their patients emotionally. Patients are likely to voice their worries implicitly, indicating they have a need for emotional support from their GPs. Therefore, we endorse that GPs' should prioritize engaging in actively responding to subtle hints to possible emotional problems.
References


7

Discussion
Aim of the study

The aim of the present study was to investigate changes in doctor-patient communication, within the context of changes over the course of time in general practice care in the Netherlands. We focused on the question: How are changes in general practice (shifts in approaches) reflected in doctor-patient communication (shifts in behavior)? In Chapter 1, we designated three aspects for study: 1) the changing contexts and dominant approaches taken by GPs, 2) the changing roles of patients attending medical consultations, and 3) the dynamics of the doctor-patient interaction, in which the realities experienced by GPs and patients meet.

Regarding the changing approaches in general practice, we studied a shift from an approach that emphasizes comprehensive, personal care - as defined at the Woudschoten conference in 1959 [1] - toward an approach with a greater focus on evidence-based medicine [2]. In line with an evidence-based approach, national clinical guidelines in general practice were implemented in the 1990s in the Netherlands [3]. These clinical guidelines contribute to accountability and therefore are a key component of quality of care. To investigate whether this shift in approaches was also reflected in changes in communication styles employed by GPs, we compared general practice consultations prior to and after the implementation of various guidelines covered in the empirical studies reported in this thesis. We aimed to study whether the implementation of guidelines is accompanied by changes in perceived quality of doctor-patient communication. In addition, we studied whether GP communication styles display elements of reconciliation between the use of clinical guidelines and the core value of comprehensive and personal care in daily practice.

We also focused on the role of patients attending consultations. Today, the prevailing concept of the 'modern patient' is of an assertive and well-informed individual. Patients are encouraged and expected to take an active role in the medical consultation [4] and information on health topics has become easily available to patients [5]. However, in reality, patients attending general practice consultations rarely discuss their concerns openly and spontaneously [6,7]. Thus, soliciting patients' concerns is challenging for GPs, even though GPs widely acknowledge the importance of allowing space for patients to share their problems and worries [8]. We sought to address the question as to whether patients really have become more
assertive over time by observing the way they voice their concerns during consultations.

When analyzing the dynamics of doctor-patient communication, we studied the question of how we can integrate the ‘art of medicine’ and the ‘science of medicine’ [8]. In an effort to reconcile these two aspects of medicine, we included both emotion-related communication (voicing worries, showing compassion) and task-oriented communication (asking questions, giving information) in our studies.

Main findings

GPs and patients provide higher quality assessments over time
In the study described in Chapter 2, we examined whether the shift toward a more evidence-based approach was accompanied by changes in perceived quality of doctor-patient communication according to GPs and lay people (patients with hypertension). We decided to focus on hypertension consultations, as an example of a common health problem that requires a comprehensive approach including both biomedical care and psychosocial care to address related problems such as stress. We instructed GPs and lay people to observe hypertension consultations videotaped prior to and after the implementation of the clinical guideline for hypertension: 1982-1984 and 2000-2001, respectively. They assessed the quality of biomedical communication (the clarity and correctness of medical explanations), the quality of psychosocial communication (addressing non-somatic aspects related to the complaint) and the interpersonal quality of the consultation (building an open and secure relationship). We found that on all three dimensions, but in particular regarding the quality of biomedical communication and interpersonal quality, consultations after the implementation of the guideline for hypertension received higher quality ratings from both GPs and lay people with hypertension. In addition, there was less variation between GPs in the quality ratings on more recent consultations. It seems that GPs were successfully guided by the clinical guideline for hypertension, as quality ratings were higher and the variation between assessments by GPs was smaller following the implementation of this guideline.
Patients identified listening, respect and support as core values stable over time

In order to identify communication factors that determine the quality of communication as perceived by patients, we focused on patients’ views on changes in doctor-patient communication in Chapter 3. Based on the same hypertension consultations investigated in Chapter 2, we studied the relationship between quality assessments by lay observers - as described above - and communication by GPs during consultations. We observed communication by GPs, focusing on questions, information and advice, and emotional verbal communication such as expressing empathy, concerns, and allowing space for personal talk. In addition, we asked the lay observers to provide open comments on the consultations.

Based on the quantitative analysis of communication styles of GPs, as well as the qualitative analysis provided in the open-ended comments on the consultations, we found that lay observers (patients with hypertension) clearly recognized changes in doctor-patient communication, but also indicated stable quality aspects over time. Prior to the introduction of the guideline for hypertension, lay observers’ quality ratings were mostly based on communication on medical aspects. Afterwards, this was not the case; possibly because medical communication by GPs has become more standardized. In line with the quantitative findings, comments by lay observers showed that they observed changes in how GPs explained things to their patients. They also indicated a power shift from a situation where GPs took responsibility toward GPs and patients sharing responsibility. There was also a shift from a problem-oriented approach toward a more solution-focused communication style by GPs. In addition, we found that communication on psychosocial topics and room for personal talk (‘chit-chat’) were positively related to quality assessments by patients in both periods. The open-ended comments revealed that aspects such as listening, showing support and respecting patients were consistently identified as aspects of the quality of communication over time.

GPs do not prioritize showing compassion and patients hesitate to voice their concerns openly

In Chapter 4, we again identified the implementation of clinical guidelines as the main turning point toward a greater emphasis on evidence-based medicine in general practice. In this study, we focused on consultations on psychosocial problems. In 1994, the clinical guideline for depression was
implemented in Dutch general practice, followed by clinical guidelines for other psychological problems such as anxiety disorders [10,11]. These guidelines set out procedures for the diagnosis of psychological disorders on the basis of psychiatric classification schemes, along with a systematic approach to psychosocial problems. Consultations in which GPs clearly identified psychosocial aspects were observed and consultations prior to and after the implementation of the guidelines for psychological disorders were compared. We analyzed the communication styles employed by GPs by noting how often they asked questions, provided information and advice, showed empathy, addressed concerns, and allowed space for personal talk.

In more recent consultations, we found that GPs have become more focused on providing information and advice, rather than supporting patients emotionally by showing empathy. The findings that GPs did not seem to prioritize open displays of compassion during consultations and that they even tend to show less compassion over time raised new questions regarding the possibilities for patients to share their worries and concerns. Therefore, we focused on the role of the patient during consultations in Chapter 5 by observing how patients voice their worries and how GPs respond. Although there is a broad consensus on the importance of giving space for patients to drive the agenda [8], they rarely express emotions spontaneously or explicitly [6]. Therefore, we observed both explicitly voiced worries (“I feel so anxious”) and implicit hints of concerns and ambiguously voiced worries (“I don’t know... It’s just too much for me...”). In both periods, we found that patients were far more likely to express their worries in an implicit manner. When comparing consultations prior to and after the implementation of guidelines for psychological problems, we found a slight increase in the proportion of more patients who voiced their concerns directly (an increase from 24% to 37%), but the vast majority of patients still only presented subtle hints as to their underlying problems. In addition, we noted the presence of the ‘doorknob phenomenon’ (patients initiating cues and concerns at the end of consultations) [12,13] even more often in recent years. This might indicate that patients perceive less space at the start of consultations to share their worries, or that information given at the end of consultations evokes new concerns. Moreover, in both periods the GPs in our study were not likely to respond explicitly to concerns, either by showing empathy or through further exploration. This indicates that GPs
remain relatively passive listeners, rather than actively providing emotional support.

**GPs have become more aware of psychosocial problems, but do not communicate accordingly**

In Chapter 6, we studied GPs’ sensitivity to patients’ distress and communication on psychosocial factors in low back pain consultations prior to and after implementation of the clinical guideline for non-specific low back pain [14]. This clinical guideline emphasizes that GPs should investigate psychosocial factors (such as illness beliefs) that may relate to low back pain complaints presented. Patients completed short questionnaires on general distress, while GPs were asked whether they identify psychosocial aspects during consultations, indicating whether GPs were sensitive to distress in patients. There was a shift over time toward more consultations in which GPs assumed the presence of psychosocial factors and greater numbers of patients indicating distress. This indicates that GPs have become keener of assuming psychosocial aspects during consultations for low back pain in recent years. As false positives were included, the increase over time in attributing psychosocial factors did not translate into an increase in correct identification of psychosocial factors. The proportion of consultations in which GPs correctly identify the presence or absence of general distress remained constant over time. We also investigated GP communication styles and worries voiced by patients. Although GPs seem to have become more aware of psychosocial aspects during low back pain consultations, they did not engage further conversation about emotions. GPs have placed more emphasis on providing biomedical information and advice during consultations following the implementation of the clinical guideline for non-specific low back pain. In line with the findings in Chapter 5, patients were not likely to voice their worries openly in either period, despite the increasing number of consultations in which patients reported distress.
Discussion of the findings

Clinical guidelines and changes in GP communication styles

National clinical guidelines can be identified as one of the main conditions for providing quality of care in general practice as they contribute to accountability [15]. Clinical guidelines offer support to GPs to help diagnose and treat patients based on the best available clinical and scientific evidence. Previous research on the implementation of clinical guidelines in general practice mainly focused on guideline adherence [16-18]. In the present thesis, we focused on doctor-patient communication during consultations in order to gain insight into how contextual developments, such as the implementation of clinical guidelines, may relate to practice on the ground. Our empirical findings showed support for the hypothesis that clinical guidelines contribute to quality of care in general practice; we found that the quality of doctor-patient communication during hypertension consultations received higher ratings from GPs and lay observers after the implementation of the clinical guideline for hypertension. There was less variation in quality assessments by GPs after the implementation of the guideline for hypertension. Along with the fact that the quality of care received higher ratings in more recent years, this indicates that a more routine approach in daily practice seems to be appreciated by both doctors and lay people. In addition, we found that during psychosocial consultations and consultations on low back pain, GPs tend to focus on providing information and advice. This indicates that clinical guidelines might motivate GPs to ensure that their patients are well informed about their health. Furthermore, GPs were found to identify psychosocial aspects of consultations more often after the implementation of the clinical guideline for non-specific low back pain. This guideline emphasizes the importance of exploring possible psychosocial factors influencing patients’ illness beliefs and behavior. Our findings indicate that the guideline for non-specific low back pain may contribute to awareness among GPs of related psychosocial factors. The shifts over time toward higher ratings for the quality of communication, a greater focus on informing patients, and greater awareness among GPs of psychosocial factors can be considered as positive developments.

However, one of the concerns related to a stronger emphasis on standardized national clinical guidelines is that GPs may have difficulties giving room for individual attention to their patients [9,19]. In the
observational studies, we repeatedly found that GPs rarely show compassion through clear verbal expressions of empathy during consultations (e.g. "You must be worried"). Over time, such expressions even declined. We focused on consultations in which a comprehensive approach was needed and where both biomedical and psychosocial aspects should have been explored (hypertension, psychosocial problems, and low back pain). However, the tendency to prioritize asking biomedical questions and giving biomedical information rather than psychosocial exploration and showing empathy was a consistent trend found over time and across the various consultations types investigated. The quality ratings for hypertension consultations by GPs and lay people indicated greater improvement over time on the quality of biomedical communication compared with psychosocial communication, which also indicates that GPs seem to prioritize biomedical aspects. These findings suggest that GPs may indeed may have difficulties reconciling displays of compassion with providing evidence-based care in accordance with clinical guidelines. Although our findings also show that GPs have become more aware of psychosocial factors over time, it seems that awareness on the part of GPs does not necessarily translate into concrete application of a comprehensive, personal communication style in which they allow space for patients to express their emotions. The changes in GP communicative behavior found in our observational studies followed the shift toward greater emphasis on evidence-based medicine, which encourages GPs to structure their consultations rather than spending time on building a relationship with patients. Regarding our question on how GPs could combine the use of clinical guidelines with the core value of comprehensive and personal care, our findings show that putting both approaches into practice on an equal basis is not straightforward and is a challenge for GPs at present.

Although we focused on comparing the periods prior to and after the implementation of national clinical guidelines in the Netherlands, the context of doctor-patient interaction is complex and other developments and changes may influence doctor-patient interaction. We know from previous research that female and male GPs (and patients) tend to use different communication styles; female GPs were found to engage more in emotional communication compared with male GPs and therefore tend to solicit more concerns from patients [20,21]. In our study, we also found that the
frequency with which patients shared their worries was partly explained by GP characteristics such as gender, with female GPs soliciting concerns more often. Moreover, we know that the proportion of female GPs in the Netherlands has risen rapidly over the past few decades [22]. The feminization of primary care was also reflected in the observational studies of our studies: there were more female GPs in recent videotaped consultations included in our study. With an increase in female GPs we would have expected a greater focus on emotional support. Remarkably, however, our results show the contrary: GPs engaged less in affect-oriented communication (empathy) during more recent consultations in our study. The context of a particular point in time might have a greater influence on communication styles than gender and gender differences in the communication styles may have become smaller over the years.

Trends in the organizational developments in primary care may also influence the doctor-patient relationship and the way GPs and patients communicate during consultations. For example, factors such as a growing number of GPs working in group practices and an increase in practice size [23], a growing number of GPs working part-time [24], and more task delegation of routine care to practice nurses [25] may threaten personal continuity - continuous patient care by the same GP. Continuity of care was one of the core values defined for GP practice at the Woudschoten conference in 1959 [1]. Patients also value continuity of care: personal continuity has consistently found to be associated with patient satisfaction [26] and patients particularly value a personal doctor-patient relationship for more serious or psychological problems [27]. The observational studies in this thesis focused on single visits and familiarity between GPs and patients was not included as a variable in the analyses. Little is known on how changes in familiarity and personal continuity relate to changes in the doctor-patient interaction during medical consultations. However, in a comparative study between European countries, it was found that in gatekeeping countries - which are associated with ‘fixed list systems’ and as a result with greater familiarity between GPs and patients -, patients were more likely to ask for psychosocial help and GPs were more likely to consider psychosocial diagnoses compared with GPs in non-gatekeeping countries [28]. This indicates that familiarity may be related to requests for and provision of psychosocial care. In contrast, there are also indications (based on a pilot study) that familiarity between GPs and patients does not
automatically lead to patients talking about psychological issues or about their social environment [29]. In other words, findings on the influence of familiarity on the doctor-patient interaction are not conclusive. As changes in personal continuity and familiarity between GPs and patients are unavoidable given current organizational developments in Dutch primary care, further research on changes in continuity and doctor-patient communication is necessary.

Changes in patients’ roles during general practice consultations

Today, the idea of the ‘modern patient’ who is assertive and well-informed is widespread. Patients are encouraged and expected to take an active role in the medical consultation [4] and information on health topics has become easily accessible [5]. In a previous observational study on patient involvement, it was found that GPs allowed more space for shared decision-making processes after legislation was passed instituting patient informed consent [30]. However, patients attending general practice consultations rarely discuss their concerns openly and spontaneously [6]. Furthermore, patients’ ideas and preferences on active involvement are not necessarily reflected in their behavior during consultations [31]. Thus, despite a broad consensus among GPs on the importance of adopting a patient-centered approach, in which GPs support and encourage patients to express themselves [8,32,33], successfully soliciting patients’ concerns during actual consultations remains a challenge [7]. The ideal of the assertive patient advocated in recent years may not automatically be reflected in real assertive behavior in daily practice.

For patients to be able to show assertiveness in expressing their concerns and preferences during consultations, they first need to become aware of their concerns and know what their preferences are. In line with previous studies [34], we found that patients have clear ideas about what they consider to be ‘good’ doctor-patient communication. In our studies, patients with hypertension were well able to assess the quality of doctor-patient communication when observing videotaped consultations. In addition to providing a quantitative assessment (scale of 1 to 10), the patient participants provided open-ended comments on the observed consultations. We noticed that patients did not have any difficulty identifying and describing the aspects they value in the doctor-patient interaction. They were very specific in their comments regarding GPs’ communication skills,
and we identified various themes in the comments such as the clarity of explanations, eliciting patients’ preferences, and showing support and respect toward patients. We also found that the aspects related to the doctor-patient relationship (listening, providing support, and showing respect) were stable over time. It is important to note that although certain general values (such as listening, providing support, and showing respect) are appreciated by most patients, patients may also vary widely in their specific communication preferences [35]. In our study on low back pain consultations, patients reported their levels of distress before entering the consultation room. We found that during more recent consultations, patients were more likely to report distress on the patient questionnaire. Patients have become more familiar with psychosocial problems such as anxiety and depression as information on mental health has become readily available, for example through the Internet [36]. It might be the case that as patients have become more informed about psychosocial problems, they may also have become more aware of their own feelings. The findings of our empirical studies show that patients are well aware of their preferences and feelings regarding consultations with their GPs.

However, our findings indicate that despite understanding their own feelings and needs, patients were unlikely to voice their worries openly with their GP. There was a slight increase in the number of patients voicing explicit worries over time, but in the vast majority of cases, worries were voiced through subtle implicit hints rather than clearly expressed concerns. The small increase in the explicitness of voiced concerns may point to an attempt by patients to behave more assertively during consultations. However, in both periods investigated, the majority of consultations did not feature any clear and explicit verbalized concerns expressed by patients. Inviting patients to open up about their feelings is important, as GPs do not always recognize emotional distress [37,38]. In the study on low back pain consultations, we found that the proportion of consultations in which GPs correctly identified the presence or absence of distress experienced by patients did not change over time. In a large proportion of consultations (41% to 45%), GPs did not correctly identify psychosocial factors during consultations. Although these figures mainly refer to GPs’ sensitivity to distress, we believe that encouraging patients to verbalize their worries more clearly may also contribute to higher rates of identification of distress. Furthermore, GPs need to be aware that new concerns may come up
towards the end of consultations. In line with the 'doorknob phenomenon', in which patients frequently tend to initiate new concerns at the closing stage of consultations [12,13], we found that cues and concerns were often expressed at the end of consultations. Our findings even indicate an increase in occurrences of the 'doorknob phenomenon' during recent consultations. It might be that the emphasis put on standardizing and structuring consultations according to guidelines leaves less room for patients to elaborate on their worries at the beginning of consultations, which may explain why worries are more often expressed toward the end. In addition, as GPs were found to give more information during more recent consultations, they should be aware that an emphasis on informing patients may also evoke additional concerns. We recommend that GPs actively engage in soliciting patients' concerns throughout the consultation and allowing space for them to talk and disclose any worries.

In the empirical studies we mainly investigated GPs' solicitation of patients' worries, which can be considered as an important aspect of patient-centered care: understanding the patient-as-person [8]. We did not specifically focus on another aspect of patient-centered care: sharing power and responsibility. Patient activation and shared decision making, in which patients and GPs share treatment preferences and jointly agree on health care treatment choices has been considered to benefit patients [4]. However, previous studies show that GPs rarely display clear, observable shared decision-making behavior [39,40]. GPs might have difficulties distinguishing between the process of involvement and the actual decision made [41]. Shared decision-making is a relatively new area of research and the process of finding common definitions and developing adequate measurement instruments is ongoing [42]. With the growing emphasis on patient activation and supporting technologies (e.g. eHealth interventions), the doctor-patient relationship may have shifted from a paternalistic relationship toward a relationship characterized by consumerism [43]. Although today's patients often appear to be accountable and responsible for their own health, it is important to note that patients remain dependent on health care providers when confronted with illness. In contrast with the relationship between 'consumers' and 'providers', which is characterized by equality and based on supply and demand, the relationship between patients and health care providers is more complex, as patients have to
strike a balance between taking responsibility and accepting medical and emotional support [44]. This balance relates to patients’ need to know and understand and to feel known and understood [45]. In line with previous research indicating that patients mainly expect respect and support from their GPs [34,35], our study investigated patients' comments on consultations and showed that they value the core aspects of listening, respect and support regardless of the period in which consultations were recorded. Patients clearly distinguished these aspects of the doctor-patient interaction from other aspects that were more dependent on a particular point in time as they indicated shifts from an emphasis on the responsibility of GPs toward shared responsibility between GPs and patients.

Regarding our question as to whether the 'modern patient' has become more assertive over time, our findings suggest that although patients are well informed and have clear preferences about key aspects of communication with their GPs, patients in our study did not display much assertive behavior during consultations. Efforts to activate patients and share decision-making processes are ongoing and may benefit patients. However, we also believe that there are limits to the capacity of patients to behave in an assertive manner, as the need for medical and emotional support from GPs remain paramount. Therefore, we should reevaluate the ideal of 'the assertive patient' (de mondige patiënt).

Reconciling the 'art of medicine' with the 'science of medicine'

The findings of our study show that GPs struggle to strike a balance between providing comprehensive patient-centered care and providing care in line with evidence-based clinical guidelines. This complex balance between patient-centeredness [8] and evidence-based medicine [2] can be translated into the traditional distinction between the 'art of medicine' and the 'science of medicine' [46]. The 'art of medicine' can be described as patient-oriented and is reflected in general practice in the core values of providing comprehensive and personal care. The concept of patient-centeredness is characterized by a more egalitarian doctor-patient relationship that gives equal weight to the knowledge and values of both doctors and patients [4,47]. In contrast, the 'science of medicine' can be described as mostly disease-oriented. In general practice, the 'science of medicine' is reflected in the development of standardized protocols and clinical guidelines. Evidence-based medicine relies on finding evidence for the best available
treatments in care and encourages the application of standardized approaches, based on protocols and guidelines [2]. Efforts are made to integrate ‘the art of medicine’ and ‘the science of medicine’ by studying doctor-patient communication systematically and contributing to the evidence-based knowledge on doctor-patient communication [9]. However, there is a concern that within increasing emphasis on standardized and evidence-based medicine, individual care for the patient may fall by the wayside [9].

Reconciling ‘the art of medicine’ and ‘the science of medicine’ is not only challenging for GPs, but also for researchers. In our observational studies, we focused on the distinction between affect-oriented and task-oriented communication and compared periods prior to and after the implementation of national clinical guidelines in the 1990s. Our findings indicate a shift toward task-oriented communication and decreases in affect-oriented communication (empathy) by GPs. We addressed topics such as empathy expressed by GPs and worries voiced by patients systematically by applying observational instruments to real-life videotaped consultations. We attempted to capture aspects of the subjective concept of compassion, with objectively observable behavior (verbalized empathy).

Methodological reflections

Advantages and challenges in relation to historical videotaped material

The observational studies reported in this thesis were conducted on a unique archive of videotaped general practice consultations in the Netherlands spanning over thirty years (1977 to 2008). To our knowledge, there are no other comparable databases of videotaped material available to study changes in doctor-patient communication. This unique dataset enabled us to compare real-life consultations from different periods.

While all consultations in the database have been digitized and catalogued to facilitate accessibility and selection, technical deterioration of videotaped material was a challenge. The storage of videotaped material had to adapt to technological developments: videotaped consultations were transferred several times from different types of video devices before they were fully digitized. In the process, the quality of some videotaped consultations deteriorated (sound and image) and were therefore excluded.
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from the present study. Moreover, because the collections of the videotaped consultations were conducted as part of different previous studies on doctor-patient communication executed by various researchers, there were also variations in the background information collected (questionnaire data).

Furthermore, we could not fully prevent selection bias on the part of the participating GPs or patients, as participation in the studies was voluntary. Although GPs and patients were unaware of the focus of the observational studies (psychosocial problems, hypertension and low back pain), they may have been aware of the researchers’ interest in communication styles of the GP. Therefore, we can expect a selection bias toward GPs and patients with a personal interest in doctor-patient interaction. However, since participating GPs were followed for at least a full day (or a series of consecutive days), we believe that videotaped material displayed their ‘natural behavior’ during consultations. Video recording is a valid method of examining doctor-patient communication; the influence of the video recorder on participants is marginal [48,49]. Another advantage of using videotaped material is that GPs and patients may not always be aware of their behavior during consultations as their own perceptions and attitudes may differ from their actual behavior.

For the selection of videotaped material we included consultations based on ICPC codes (consultations on hypertension and low back pain) and GPs’ assessment of the degree to which psychosocial aspects gave rise to the consultation (consultations for psychosocial problems). We included 189 consultations for hypertension, 150 consultations for low back pain, and 512 consultations for psychosocial problems. In some consultations more than one topic was discussed. Therefore, there was some overlap in the study samples. In two consultations both hypertension and low back pain problems were discussed; in six consultations, hypertension was discussed and the psychosocial aspect was addressed by the GPs; and in 19 consultations, low back pain problems were discussed and the psychosocial aspect was addressed by the GPs. As a result, the three study samples included a total of 824 unique consultations.

Observational instruments
In the observational studies, we applied two different observational instruments: 1) the Roter Interaction Analysis System (RIAS) [50], and 2) the Verona Coding Definitions of Emotional Sequences (VR-CoDES) [51,52].
These observational instruments share some characteristics. For example, both coding methods can be applied directly to videotaped material, without the need for written transcriptions. However, as the two instruments focused on different aspects, we believe that they were complementary when studying possible changes in doctor-patient communication, as our main interest was in how GPs provide comprehensive and personal care during their consultations and on how patients open up about their emotions and worries.

Regarding the question as to how GPs provide comprehensive and personal care during consultations, the RIAS coding system enabled us to gain an understanding of the anatomy of consultations and the general communication styles of GPs during consultations. In the RIAS coding system, communication units are defined as utterances - the smallest discriminable speech segment to which a classification may be assigned. With the RIAS coding system we were able to identify dominant communication styles (task-oriented versus affect-oriented) among GPs and compare them across different periods of interest. Another advantage of applying the RIAS is that this observational coding system is widely used with proven validity and reliability [53]. As the RIAS has been applied previously to a wide range of studies on doctor-patient communication in primary care [54], its use in our study facilitates comparison of our results with previous research.

To gain an understanding of how patients open up about their emotions and worries during consultations from different periods, we decided to apply the VR-CoDES system. The VR-CoDES coding system focuses exclusively on the expression of worries by patients and the responses offered by GPs. Therefore, it is suitable for detecting subtle hints expressed by patients indicating underlying worries. Since patients often voice their worries indirectly, rather than spontaneously and openly [6], a coding system specific to such worries - such as VR-CoDES - has an added value compared with previously used coding systems aimed at identifying communication patterns - such as the RIAS. Moreover, the VR-CoDES coding system takes into account the dynamics of the medical interaction by coding GPs' responses with reference to the worries expressed by patients.

In addition to the two systematic coding systems used to study doctor-patient interactions, we also used other rating scales and variables based on
the available questionnaire data sets obtained from our selected study samples. A possible limitation to our study is that we were dependent on data previously collected in the various study samples. Therefore, the selection and choice of rating scales was partly based on convenience. However, in the selection of variables, we aimed at consistency in variables across the periods of interest.

In Chapters 2 and 3, GPs and lay observers assessed the quality of the doctor-patient interaction on three dimensions of quality of communication (medical-technical quality, psychosocial quality, and the quality of the interaction between GPs and patients) on a 10-point scale. In a previous study [55], GP observers assessed these three dimensions and to enable comparisons, we applied exactly the same assessment protocol. However, the GP observers in our study were contemporary peers, whereas the assessments of lay observers were performed retrospectively. The GP observers judged the videotaped consultations in the same period in which the consultations took place. The lay observers performed their assessments in 2010 and it was not possible to blind the assessments, because videos from the various periods were clearly distinctive (black-and-white versus colored images, as well as other consultation features, such as clothing and furniture). We randomized the order in which videos were assessed to minimize assessment bias; half of the lay observers first observed old consultations, and the other half of the lay observers started with observations of the new consultations. In Chapters 4 and 5, we used GPs' assessments of the level of psychosocial aspects during consultations to select consultations on psychosocial problems. For each consultation, the GP assessed the degree to which psychosocial aspects gave rise to the consultation on a scale from 1 to 5 (1 = completely somatic, 5 = completely psychosocial). The assessment of psychosocial aspects was one of the few assessments that was executed in exactly the same way on all previous study samples in the complete database of videotaped consultations. In Chapter 6, we measured GPs' sensitivity to patients' distress based on the same assessment by GPs on psychosocial aspects, and patients-reported distress prior to consultations as measured with the COOP-WONCA [56] and GHQ-12 [57]. Operationalization of patient distress was based on two different variables, as we were dependent on the available questionnaire data in the study samples. However, both scales have been found to be consistent and
reliable measurements for assessing general distress in the general practice population [56-58].

Based on the experiences gained through our observational studies, it appears that the main challenge in longitudinal observational studies relates to consistency across study samples over time. Standardizing questionnaires and applying similar observational instruments over time may enrich a longitudinal database on doctor-patient communication in the future. In our study, we decided to apply the RIAS because it has previously been applied to a large number of studies, which facilitates comparison with previous studies. In addition, specific research aims may require additional measurement instruments. Since one of our interests was the way in which patients voice their concerns during consultations, we decided to apply the VR-CoDES. We did not specify our coding strategies for each of the different observational studies by including any topic-related coding variables (discussing hypertension, low back pain, or specific psychological disorders). Therefore, we could only report on overall trends and changes in GP communication styles and concerns expressed by patients, rather than changes in the way GPs and patients communicate about certain topics.

Moreover, a predominantly quantitative approach was taken to study doctor-patient communication in our observational studies. Qualitative methods to describe and analyze the doctor-patient interaction may provide broader knowledge on what happens during consultations in general practice. They also facilitate identification and analysis of ‘unexpected’ behavior by GPs or patients. For example, in the older consultations (from the 1970s) we observed that several GPs were smoking during consultations and some even offered a cigarette as a gesture to comfort patients and invite them to share their worries. Today, such behavior during consultations is highly unlikely. As we did not anticipate such aspects of the doctor-patient interaction, we did not systematically take note of and report them on these observations in our empirical studies.

Furthermore, we focused on verbal expressions and did not specifically observe nonverbal aspects of the doctor-patient interaction. Nonverbal communication - such as eye contact, voice pitch, speaking rates, gestures, and touch - are essential features of compassion [59]. A verbalized empathic statement must be concordant with nonverbal communication by GPs (using a calm tone of voice and making eye contact) in order to comfort
and support patients. Although the VR-CoDES system also accounts for some nonverbal aspects of communication (crying and sighing are coded as nonverbal cues for negative emotions), the main focus remains on concerns verbalized by patients and responses by GPs. Based on our observational studies - in which we repeatedly found that GPs tend to prioritize biomedical communication over expressions of verbal empathy in particular in recent years - we suggest that future studies should specifically observe and analyze nonverbal behavior to provide further insight into subtle aspects that account for compassion during consultations over time.

Implications for practice and future research

Practice implications for GPs: tailoring communication
The findings of our empirical studies suggest that the next step in general practice is for GPs to strike a balance between the use of national clinical guidelines and a personal approach. While compassion and building a relationship with patients have always been considered as the cornerstone of general practice, they may undergo challenges due to organizational developments and the emphasis put on quality and accountability of care. Although sincere empathy requires affective communication skills, it actually refers to the professional and personal attitude of GPs in practice [60]. Efforts to improve communication skills among GPs must be made [61] and should be implemented in tandem with efforts to increase awareness among GPs of empathic attitudes toward their patients [62]. However, medical training programs struggle to find successful methods for increasing or maintaining empathic communication skills levels, as patient-centered attitudes [63] and empathy levels [64,65] among medical students often decline upon completion of medical training programs. A qualitative investigation on such declines revealed that in the transition toward becoming a professional, medical students prioritize biomedical knowledge and may suppress their own emotions as a coping strategy [66]. This suggests a need for more guidance for medical students and GPs on how to reconcile medical quality of care with emotional aspects of the profession. A 'doctors-as-persons' approach must be taken by allowing space for emotions experienced by GPs when providing care, as well as considering 'patients-as-persons' by taking into account the fact that patients vary widely in their
needs and preferences. GPs should be flexible and capable of adapting their communication styles to the needs of individual patients [35].

With the implementation of clinical guidelines in Dutch general practice, attention has been focused on studying and improving guideline adherence [15,16]. Guidelines are often considered 'objective' ways to account for quality of care, but quality of care is defined in the eye of the beholder and therefore by definition highly 'subjective'. In addition, as knowledge on symptoms and diseases grows, national clinical guidelines in general practice continue to develop and are frequently revised. Furthermore, as the clinical guidelines in general practice are organized using ICPC codes (symptoms and diagnoses) multimorbidity is not always taken into account. Multiple diagnoses are common in primary care, often including chronic illnesses [67]. An individually tailored approach to treating patients with multiple and chronic illnesses is needed, as such patients are characterized by variability [68]. Holding onto a diagnoses-treatment model of care may even cause confusion and chaos, as combining different guidelines may not only overwhelm GPs and their patients, but guidelines may contradict each other [69]. Therefore, we believe that GPs should be guided and trained to tailor their professional skills - including communication styles - to the needs of their patients, while drawing on guidelines and protocols to account for quality of care. Research on 'mindlines' (collectively reinforced internalized tacit guidelines) shows that GPs rely on informal sources - such as previous personal experience or that of colleagues - as well as formal sources - clinical guidelines [70]. GPs also should be encouraged to draw on their 'subjective' knowledge and experiences as part of an integrated approach, combining comprehensive, personal care with evidence-based knowledge.

Practice implications for patients: balance responsibility with vulnerability
Just as GPs must strike an appropriate balance between personal care and evidence-based medicine, the key challenge for patients also relates to finding a balance when dealing with illness. Patient activation and shared decision-making are considered to benefit patients [4] and efforts are made to encourage patients to actively take responsibility for their own health. Today, health care policies in the Netherlands emphasize the importance of patient responsibility and self-reliance regarding health behavior [71]. Patients are encouraged to engage in healthy lifestyle behavior to maintain
health, as well as to use their judgment when deciding whether they need to consult their GP or whether they can improve their health through self-care and self-management. Moreover, patients can easily access data on the quality of care by health care providers (e.g. www.kiesbeter.nl), which enhances the role of patients as 'consumers of care'. However, with the emphasis on patient responsibility and self-reliance, it is also important to acknowledge that part of the role of the patient is 'being patient' (having patience) and to allow for feelings of vulnerability. The word patient derives from the Latin word patior, which underscores the two major aspects of being a patient as this single word can be translated as 'to suffer', as well as 'to endure'. Responsibility for health related behaviors should not be confused with 'guilt' when confronted with illness. We believe that it is important that patients feel able to share their feelings of vulnerability or confusion, in particular when topics such as responsibility are discussed during consultations. Patients with complex health problems often hesitate to share their emotional concerns and are likely to present somatic complaints only [72]. However, studies on communication around medically unexplained symptoms show that although patients tend to present their complaints somatically, they readily acknowledge a psychosocial element to their distress [73] and indicate a desire for emotional support [72]. Today, eHealth interventions are developed and may support patients to prepare for their medical visit and offer follow-up information after consulting their GP [74]. In light of our findings that patients are not likely to voice their concerns openly and spontaneously, we believe that in addition to developing tools aimed at encouraging patients to take responsibility for their health, we should also motivate and support patients to prepare for sharing their concerns with their GP. Recent studies on question prompt sheets used in preparation for oncological consultations show that inviting patients to write down their questions and concerns prior to consultations may help them to behave more assertively during consultations [75,76]. Comparable interventions may also help patients to prepare for consultations in primary care. Based on a multicenter study involving focus group meetings with lay people on doctor-patient communication [77], the Federation of Patients and Consumer Organisations in the Netherlands (NPCF) has developed information leaflets and posters containing 'tips' for patients to identify questions and concerns prior to consultations [78]. Future studies could focus on the effects of these information leaflets or
comparable interventions on assertiveness levels during consultations, as well as on investigating implementation strategies for daily practice.

Future research on doctor-patient communication
Over the past three decades, the implementation of national clinical guidelines for general practice in the Netherlands has been a major change that has affected the doctor-patient interaction. As the context of primary care in the Netherlands and the role of patients continue to change, changes in doctor-patient communication is expected to be a relevant research area over the next couple of decades. This thesis indicates that after a shift from a focus on comprehensive, personal care toward an emphasis on more evidence-based medicine, the next challenge is to adequately reconcile both approaches.

In line with the practical implication of encouraging GPs to tailor their communication to each individual patient while taking evidence-based knowledge into account, we believe that future research on communication in health care should focus on identifying successful strategies for tailoring communication. As tailored communication responds to individual differences in preferences and needs, research methods should combine quantitative and qualitative approaches, to capture both objectively measurable aspects of communication (skills and behavior) as well as more subjective aspects of communication (attitude and feelings). Shared decision-making, in which patients and GPs share treatment preferences and jointly agree on health care and treatment choices has received growing recognition in the past few years, and can be described as an approach that combines personal care and evidence-based care [79]. Although patient activation in decision-making processes has been considered to benefit patients [4], not all patients prefer active involvement in consultations [80]. Studies on the effects of patient activation and shared decision-making are hindered by a lack of clear definitions [81] and the absence of adequate measurements and defining ‘gold standards’ [42]. Decision-making aids for patients have been developed but are not yet widely implemented in general practice [82]. Although there are indications that GPs have made progress over time in terms of patient involvement during consultations [30], most studies report that GPs rarely display clear observable shared decision-making behavior [39,40]. There seems to be a discrepancy between the ideal of sharing the decision-making processes with patients and actual
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Observations in daily practice. As the research field of shared decision-making is relatively young and currently receiving a lot of attention, we believe that the transition from theory to practice will take time and should therefore be studied in the coming decades. In recent decades, research efforts and communication skills training have focused on efforts to solicit patient's agenda, which mostly occurs during the first part of the consultation. When studying shared-decision making processes and patient activation, the focus of research should also be shifted toward the second part of consultations in which treatment plans are discussed [83].

Concluding remarks

Doctor-patient communication is subject to contextual factors and the context of general practice care in the Netherlands is continuously changing. Over the past few decades, the comprehensive personal approach as defined at the Woudschoten conference has shifted toward a greater emphasis on evidence-based medicine characterized by the implementation of national clinical guidelines in general practice in the Netherlands. Based on the observational studies reported in this thesis, it was found that this shift not only refers to a change in ideas, but is also reflected in a shift in observable communication styles by GPs during consultations with their patients. It seems that the next challenge for GPs is to find an appropriate balance between providing care in accordance with evidence-based knowledge and guidelines without losing sight of the 'patient-as-person'. In addition, the role of the patient during consultations and in relation to their own health is also changing: today, there are greater expectations for patients to take responsibility for their health-related behavior and efforts are being made to reinforce patients' self-management skills. However, patients also experience challenges in finding a balance between taking responsibility and sharing their vulnerability with their GP. Interventions aimed at activating patients should also support patients in acknowledging and voicing their concerns. In studies on the dynamics of doctor-patient interaction, efforts have been made to study subjective aspects of communication (emotion-related communication) in an objective (systematic) way. This thesis contributes to the body of evidence-based knowledge on doctor-patient communication; approaching subjective topics objectively. However, we believe that
reconciling the 'art of medicine' with the 'science of medicine' also requires 'making the objective subjective'. Sincere compassion expressed by GPs cannot be fully captured by merely observing specific communication skills, as it actually refers to the professional and personal attitude of GPs. In the context of a strong emphasis on 'objective' clinical guidelines in primary care, we should also encourage GPs to tailor their communication to the needs of each individual patient. GPs must be given space to draw on their own subjective knowledge and experiences as part of an integrated approach combining comprehensive and personal care with evidence-based knowledge.
References


Chapter 7


Changes in doctor-patient communication in general practice


[34] Swenson SL, Zettler P, Lo B. ‘She gave it her best shot right away’: patient experiences of biomedical and patient-centered communication. Patient Educ Couns 2006; 61: 200-11.


Samenvatting
(summary in Dutch)
Introductie

Het medisch consult - waarin een huisarts en een patiënt met elkaar in gesprek gaan over ervaren gezondheidsproblemen, mogelijke diagnoses, en behandelingen - heeft een centrale positie in de gezondheidszorg. De manier waarop huisartsen en patiënten met elkaar communiceren wordt beïnvloed door de context (omgevingsfactoren) waarin het consult plaatsvindt. Deze context is steeds aan verandering onderhevig; in de afgelopen paar decennia heeft de gezondheidszorg, en dus ook de huisartsenzorg, veel ontwikkelingen doorgemaakt. In dit proefschrift hebben we gekeken hoe de veranderende context mogelijk invloed heeft op veranderingen in het arts-patiëntcontact tijdens het huisartsenspreekuur. In hoeverre zien we veranderingen in opvattingen van huisartsen (over wat door huisartsen beschouwd wordt als goede zorg) terug in veranderingen in gedrag (communicatie) tijdens huisartsconsulten?

Om inzicht te krijgen in mogelijke veranderingen in arts-patiëntcommunicatie in de huisartsenzorg, is het belangrijk te kijken naar 1) de veranderende opvattingen van huisartsen over goede huisartsenzorg, 2) de veranderde rol van patiënten, en 3) hoe arts-patiënt communicatie onderzocht kan worden, rekening houdend met veranderingen bij huisartsen en patiënten.

De positie van huisartsen

In 1959 kwam het Nederlands Huisartsengenootschap (NHG) bijeen tijdens de befaamde Woudschotenconferentie. Tijdens deze conferentie werd de taakomschrijving van de Nederlandse huisarts besproken en gedefinieerd als het aanvaarden der verantwoordelijkheid voor een continue, integrale en persoonlijke zorg voor de gezondheid van de zich aan hem toevertrouwende individuele mensen en gezinnen. Persoonlijke aandacht voor de patiënt vormde het uitgangspunt voor verdere professionalisering van de huisartsenzorg in Nederland. Tijdens de huisartsenopleiding is daarom altijd veel aandacht geweest voor het ontwikkelen van communicatievaardigheden. Deze professionalisering van de huisartsenzorg betekende ook aandacht voor het verbeteren van de medisch-technische kwaliteit van zorg. In 1989 verschenen de eerste NHG-standaarden, die voortkwamen uit een algemene tendens in de gezondheidszorg om zo veel mogelijk evidence-based zorg aan
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te bieden. Tegenwoordig is het gebruik van NHG-standaarden volledig ingeburgerd in de Nederlandse huisartsenzorg; er zijn momenteel ruim honderd NHG-standaarden in gebruik. Hoewel deze NHG-standaarden in grote mate bijdragen aan de kwaliteit van de huisartsenzorg, is de vraag in hoeverre huisartsen het gebruik van deze standaarden voldoende kunnen integreren met de persoonlijke zorg die zo kenmerkend is voor huisartsen.

De positie van patiënten
In het kader van persoonlijke zorg van huisartsen wordt het belang van patiëntgerichte zorg breed gedragen: luisteren naar wat de patiënt belangrijk vindt. Patiënten beschikken steeds vaker over kennis (of toegang tot kennis) over hun gezondheid om zo hun eigen voorkeur te kunnen vormen voor de zorg die zij graag ontvangen. Tegelijkertijd blijkt uit eerder onderzoek dat het voor patiënten lastig is om hun zorgen, meningen, of voorkeuren duidelijk te verwoorden als ze tegenover hun huisarts zitten. Een heersende gedachte is dat patiënten tegenwoordig steeds mondiger worden. De vraag is echter in hoeverre deze mondigheid terug te zien is tijdens het huisartsenspreekuur.

Onderzoek naar arts-patiënt communicatie
Onderzoek binnen de huisartsenzorg richt zich op de 'geneeskunst' (aandacht voor de patiënt als persoon) of op de 'geneeskunde' (medisch-technische ontwikkelingen) van de huisartsenzorg. Oorspronkelijk waren dit twee relatief losstaande ontwikkelingen in onderzoek. Arts-patiënt communicatie vooral werd benaderd vanuit beschrijvend onderzoek en het delen van ervaringen, met de nadruk op de aandacht voor de patiënt en het bespreken van emoties ('geneeskunst'). De laatste paar decennia zien we steeds vaker dat arts-patiënt communicatie op een systematische manier wordt benaderd en onderzocht, waarmee de scheidslijn tussen 'geneeskunst' en 'geneeskunde' lijkt te vervagen. Wellicht kunnen we ons afvragen of we niet een brug moeten slaan tussen deze twee benaderingen van onderzoek naar zorg. Daarom hebben we in dit proefschrift zowel affect-gerichte communicatie (zoals empathie) als taak-gerichte communicatie (het stellen van vragen en het geven van informatie) bestudeerd.
Samenvatting

Methode

Om te kijken in hoeverre de communicatie tussen huisartsen en patiënten door de jaren is veranderd hebben we gebruik gemaakt van videomateriaal van consulten dat in het kader van eerdere studies naar arts-patiënt communicatie is verzameld. Het NIVEL (Nederlands instituut voor onderzoek van de gezondheidszorg) heeft dit videomateriaal gedigitaliseerd en in een beveiligde omgeving opgeslagen, enkel beschikbaar voor onderzoeksdoeleinden. De privacy van de huisartsen en patiënten wordt altijd gewaarborgd: observatoren die in het kader van onderzoek deze consulten bekijken tekenen voorafgaand een verklaring voor geheimhouding. Daarnaast wordt bij het presenteren van onderzoeksbevindingen altijd gecontroleerd of de gepresenteerde data volledig geanonimiseerd zijn en worden de oorspronkelijk video’s nooit in het openbaar vertoond. 

Deze uitgebreide databank van video-opnames uit de dagelijkse praktijk van huisartsen is voor de huidige studie beschikbaar gesteld en gebruikt voor secundaire analyse. Op basis van algemene kenmerken van het consult (zoals leeftijd, geslacht, en symptomen en diagnoses die in het consult aan bod zijn gekomen) konden we consulten selecteren voor aanvullende observaties en analyses.

We waren geïnteresseerd in hoeverre huisartsen in hun communicatie aandacht blijven houden voor persoonlijke zorg, rekening houdend met geprotocolleerde zorgstandaarden. Persoonlijke zorg is met name relevant wanneer behalve ‘puur medische’ zaken ook psychosociale problemen mogelijk bijdragen aan de klachten van de patiënt. Om deze reden hebben we drie typen consulten geselecteerd waarin wij een biopsychosociale aanpak relevant achten: 1) consulten over hypertensie, 2) consulten die volgens artsen in hoge mate beïnvloed worden door psychosociale factoren, en 3) consulten over lage rugpijn. Deze consulten zijn geobserveerd op onder andere het aantal vragen en de hoeveelheid informatie en advies die door huisartsen wordt gegeven en uitingen van empatie door huisartsen. Daarnaast hebben we gekeken naar hoe patiënten hun zorgen expliciet (“Ik ben bang dat de pijn alleen maar erger wordt”) en impliciet (“Ik weet niet wat het is... het zit me niet lekker...”) uitten tijdens consulten. Voor het observeren van consulten hebben we gebruik gemaakt van systematische observatieschema’s: Roter Interaction Analysis System (RIAS) en Verona Coding Definitions of Emotional Sequences (VR-CoDES).
Verder zijn de consulten over hypertensie door een huisartsenpanel en een lekenpanel (patiënten met hypertensie) beoordeeld op de kwaliteit van de communicatie, en hebben we bij de consulten over lage rugpijn gekeken in hoeverre huisartsen emoties bij patiënten herkenden.

Belangrijkste bevindingen

Huisartsen en patiënten vinden dat de kwaliteit van communicatie is toegenomen

In hoofdstuk 2 hebben we gekeken of met de tendens naar steeds meer evidence-based zorg en het gebruik van richtlijnen de kwaliteit van de communicatie tijdens consulten is veranderd. Voor deze studie zijn consulten over hypertensie geselecteerd omdat bij hypertensie zowel biomedische als psychosociale aspecten zoals stress een rol kunnen spelen.

Een huisartsenpanel en een lekenpanel (patiënten met hypertensie) hebben consulten voor en na de invoering van de NHG-standaard voor hypertensie bekeken en beoordeeld. We hebben ze hierbij gevraagd om te letten op biomedische communicatie (uitleg over de aandoening en behandeling), psychosociale communicatie (niet-somatische aspecten ter sprake brengen), en de interpersoonlijke relatie (hoe de arts en patiënt met elkaar om gaan).

Consulten na de invoering van de NHG-standaard voor hypertensie werden hogere scores toegeschreven op de verschillende dimensies, met name op biomedische communicatie en de interpersoonlijke relatie. Bovendien zagen we meer overeenstemming tussen huisartsen over de kwaliteit van de consulten na invoering van de NHG-standaard.

Patiënten willen een arts die luistert, ondersteunt en respect toont

Vervolgens wilden we graag weten welke aspecten van communicatie door patiënten werden gewaardeerd. In hoofdstuk 3 hebben we daarom de relatie tussen bovenstaande oordelen van het lekenpanel en communicatie van huisartsen tijdens het consult onderzocht. Communicatie van huisartsen werd geobserveerd door te kijken naar het aantal vragen, de hoeveelheid informatie en advies, uitingen van empathie, en hoeveel ruimte er was voor een persoonlijk gesprek. Daarnaast vroegen we het lekenpanel (patiënten met hypertensie) te noteren wat ze goed en minder goed vonden aan het consult. Uit de bevindingen bleek dat patiënten bewust zijn van veranderingen door de jaren in de manier waarop tijdens consulten werd
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gecommuniceerd. Biomedische vragen en uitleg van huisartsen waren gerelateerd aan de oordelen van consulten voor de implementatie van richtlijnen, terwijl deze relatie wegviel wanneer we keken naar de oordelen van meer recentere consulten. Psychosociale vragen en uitleg van huisartsen waren gerelateerd aan de oordelen van consulten van beide perioden. Bovendien bleek uit kwalitatieve analyses op basis van de commentaren van het lekenpanel dat men zich bewust was van veranderingen in de manier waarop artsen uitleg gaven (onderbouwing van hun uitleg), het besluitvormingsproces, verwachtingen en verantwoordelijkheden, en een verandering van probleem-georiënteerde gesprekken naar meer oplossing-gerichte gesprekken. Naast veranderingen over de tijd, zagen we ook stabiele aspecten van arts-patiënt communicatie. Het lekenpanel vond luisteren, emotionele ondersteuning en uitingen van respect in beide perioden (voor én na de invoering van de NHG-standaard hypertensie) even belangrijk. Dit wijst erop dat patiënten deze aspecten van de arts-patiënt interactie als kernwaarden voor de kwaliteit van de communicatie beschouwen.

Artsen besteden weinig woorden aan compassie, patiënten brengen hun zorgen niet altijd ter sprake

Om te kijken in hoeverre artsen het gebruik van NHG-standaarden en persoonlijke zorg integreerden, hebben we in hoofdstuk 4 gekeken naar hoe huisartsen communiceren tijdens psychosociale consulten. We selecteerden consulten die volgens de huisarts een sterk psychosociaal karakter hadden en observeerden het communicatief gedrag van de huisarts. Hieruit bleek dat artsen vooral veel tijd besteedden aan het geven van informatie en advies en weinig verbale uitingen van empathie toonden. Wanneer we consulten voor en na de invoering van NHG-standaarden voor psychologische problemen (zoals depressie of angst) met elkaar vergeleken, zagen we het aantal uitingen van empathie zelfs afnemen. Omdat deze bevinding de vraag oproept in hoeverre patiënten wel voldoende worden uitgenodigd om hun zorgen ter sprake te brengen, hebben we ons in hoofdstuk 5 geconcentreerd op de rol van patiënten tijdens het consult. We hebben dezelfde consulten bestudeerd door het in kaart brengen van het aantal expliciete uitingen van bezorgdheid en impliciete hints die wijzen op mogelijke zorgen of angsten van patiënten. Uit de analyses bleek dat patiënten nauwelijks geneigd zijn hun zorgen helder en duidelijk ter sprake
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We nemen aan dat patiënten in bijna alle consulten wel hints gaven voor (onderliggende) emoties. Wanneer we oude en nieuwe consulten op dit punt met elkaar vergeleken, vonden we dat iets meer patiënten (maar nog altijd een ruime minderheid) tijdens recentere consulten hun zorgen direct verwoordden. Daarnaast zagen we dat het 'deurknop-fenomeen' - patiënten die aan het eind van het consult nieuwe zorgen ter sprake brengen - vaak voorkwam, met name tijdens recentere consulten.

Huisartsen zijn zich bewust geworden van psychosociale aspecten, maar communiceren hier weinig over

In hoofdstuk 6 keken we in hoeverre huisartsen emoties van patiënten met lage rugpijn herkenden en erkenden. In de NHG-standaard voor aspecifieke rugpijn wordt benadrukt dat psychosociale aspecten een rol kunnen spelen in de ervaren rugpijnklachten en het beloop van de klachten. Aan de hand van een korte vragenlijst werd aan patiënten gevraagd of ze negatieve gevoelens hadden, terwijl huisartsen voor iedere patiënt aangaven of ze het idee hadden dat psychosociale aspecten een rol speelden tijdens het consult. We zagen dat huisartsen vaker psychosociale aspecten toeschreven aan het consult (en dat ook patiënten vaker negatieve gevoelens rapporteerden) na de invoering van de NHG-standaard. Dit betekent echter niet dat huisartsen vaker een correcte inschatting maakten van de aanwezigheid of afwezigheid van negatieve gevoelens. In een deel van de onderzochte consulten was er sprake van een fout-positieve toeschrijving van psychosociale aspecten. Huisartsen maakten een correcte inschatting in ongeveer de helft van de consulten en dit aantal bleef gelijk tussen de beide perioden. Hoewel huisartsen zich wel meer bewust leken te zijn van psychosociale aspecten bij lage rugpijn tijdens recentere consulten, zagen we dit niet terug in het communicatiegedrag van huisartsen. Opnieuw zagen we dat huisartsen zich vooral richtten op het geven van informatie en advies. Daarnaast waren patiënten in beide perioden weinig geneigd om hun zorgen openlijk ter sprake brengen.

Conclusie

In dit proefschrift hebben we ons geconcentreerd op de toegenomen tendens om patiënten evidence-based zorg aan te bieden in de Nederlandse
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huisartsenzorg en de communicatie tussen huisarts en patiënt in de spreekkamer. De implementatie van NHG-standaarden in de jaren 90 kan worden beschouwd als een belangrijk omslagpunt dat evidence-based zorg in de dagelijkse praktijk ondersteunt en sterk benadrukt. Daarnaast is persoonlijke, integrale zorg een kernwaarde van de huisartsenzorg. Uit de verschillende observatiestudies die we uitvoerden, bleek dat de toegenomen nadruk op geprotocolleerde zorg ook herkenbaar was in een verandering in de communicatiestijlen van huisartsen. Tijdens recentere consulten legden huisartsen vooral nadruk op het geven van informatie en advies aan patiënten en besteedden zij weinig woorden aan empathie. Hieruit kunnen we concluderen dat huisartsen nog zoekende zijn in het vinden van een juiste balans tussen evidence-based werken en het bieden van persoonlijke zorg. Individueel afgestemde (tailored) communicatie is een manier om deze balans in praktijk te brengen en verdient daarom de aandacht van huisartsen en in toekomstig onderzoek. Verder zagen we dat patiënten weinig geneigd zijn om hun zorgen openlijk te uiten. Dit geldt ook voor recentere consulten: patiënten zijn blijkbaar minder mondig dan vaak wordt aangenomen. Tegenwoordig worden patiënten steeds vaker aangesproken op hun verantwoordelijkheid voor hun eigen gezondheid. Gedeelde besluitvorming, een proces waarbij patiënten worden uitgenodigd actief mee te denken om tot een passende behandeling te komen, wordt hierbij als ideaal beschouwd maar komt in de dagelijkse praktijk van de huisarts nog weinig voor. We willen benadrukken dat het belangrijk blijft om te beseffen dat patiënten per definitie tot zekere hoogte afhankelijk blijven van hun behandeld arts. Aan patiënten moet daarom tijdens consulten voldoende ruimte worden gegeven aan gevoelens van onzekerheid en angst. Ten slotte draagt dit proefschrift bij aan het systematisch bestuderen van arts-patiënt communicatie: subjectieve aspecten van de arts-patiënt relatie (zoals compassie) hebben we op een zo objectief mogelijke manier (observeren van uitingen van empathie) benaderd. De resultaten van ons onderzoek laten zien dat het inderdaad mogelijk is om het subjectieve van de arts-patiënt relatie te objectiveren. Het proefschrift laat echter ook zien hoe belangrijk het is om in de spreekkamer van de huisarts niet alleen aandacht te hebben voor de ziekte, maar ook voor de zieke, en daarmee het objectieve weer subjectief te maken.
Appendix A
Appendix A

NHI / NIVEL publications on GP-patient communication using videotaped consultations in the Netherlands

2010 – 2014

Verbiest MEA, Chavannes NH, Passchier E, Noordman J, Scharloo M, Kapteijn AA, Assendelft WJJ, Crone MR. Sequence-analysis of video-recorded practitioner-patient communication about smoking in general practice: Do smokers express negative statements about quitting? (accepted for publication in Patient Educ Couns, 2014)


Appendix A


2005 – 2009


Fassaert Th, Dulmen S van, Schellevis F, Jagt L van der, Bensing J. Raising positive expectations helps patients with minor ailments. BMC Fam Pract 2008; 9: 38.


Appendix A


Brink-Muinen van den A, Dulmen S van, de Haes HCJM, Visser APh, Schellevis FG, Bensing JM. Has patients' involvement in the decision-making process changed over time? Health Expect 2006; 9: 333-42.


2000 – 2004


Appendix A


1995 – 1999


Van den Brink-Muinen, Bensing JM, Kerssens JJ. Gender and communication style in general practice: differences between women’s health care and regular health care. Med Care 1998; 36: 100-6.


1990 – 1994


1985 – 1989


1980 – 1984


Dankwoord
(acknowledgements in Dutch)
Dankwoord

Dit onderzoek was niet mogelijk geweest zonder de vele deelnemende huisartsen en patiënten die bereid zijn geweest hun consulten op video te laten opnemen. Daarnaast wil ik de deelnemers van de huisartsenpanels en lekenpanels bedanken voor hun tijd en inzet om consulten zorgvuldig te beoordelen op kwaliteit. Dankzij de onderzoekers die mij voor zijn gegaan en op zorgvuldige en systematische wijze het videomateriaal hebben gearchiveerd is een unieke databank ontstaan waarop ik mijn promotieproject heb kunnen baseren.

Om van de omvangrijke databank met videoconsulten tot een samenhangend proefschrift te komen is een heel proces voorafgegaan. Op deze plek wil ik een aantal mensen bedanken die in dit proces op een praktische (taakgerichte) manier hebben bijgedragen dan wel emotionele (affectgerichte) ondersteuning hebben geboden.

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Toen ik in december 2009 aan mijn promotieonderzoek begon, was de ‘huisartsenwereld’ voor mij nog relatief onbekend terrein. Door de
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gesprekken, meeloopdagen en 'sparringsmomenten' met verschillende
huisartsen kreeg ik een leerzaam inkijkje in het vak van de huisarts.
Hiervoor wil ik met name Prof. dr. Heert Dokter, Anneke Kramer, Corine
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onderzoek geobserveerd. Jullie gingen altijd kritisch en zorgvuldig te werk,
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Curriculum Vitae
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Ligaya Butalid was born in Tilburg, the Netherlands, on March 30th, 1984. She completed her secondary education (VWO) in 2002 at Theresialyceum in Tilburg and studied Health Psychology at Utrecht University. During her studies she developed a clear interest in scientific research. As a research assistant, she was involved in a short research project on the effects of weather on daily mood. In 2008, she obtained her masters degree in Psychological Health Research with a thesis on the pain relieving function of crying in patients with fibromyalgia. In 2008-2009, she worked as a junior program officer at ZonMw - The Netherlands Organisation for Health Research and Development. She was involved in the research programs 'Diversity in youth policy', 'Youth care', and 'Patient participation in research, quality and policy'. In 2009, she started working as a researcher at NIVEL - Netherlands Institute for Health Services Research. Her main research focus was on doctor-patient communication and she worked on a PhD project on changes in doctor-patient communication in general practice based on videotaped consultations. The findings of this project are described in this thesis, as well as in several international publications, and were presented at national and international conferences.