Final discussion, conclusions and recommendations

"The person is a missing dimension in medical care and in medical education."

(Weston 1988)
10.1 Introduction
Even though the importance of attitudes in practising medicine has been recognized\(^1\) and the systematic curricular attention to attitude development has been stressed recently,\(^2\) little is known about the actual attitude development of medical students. Because of this, the attitudes of medical students and vocational trainees of the Utrecht Medical School were the subject of this thesis and changes in attitudes in relation to elements of the medical curriculum were investigated. The main questions were: What is the role of attitudes in medical practice? How do attitudes develop during medical training? Which attitudes are held by medical students and trainees? Can attitudes be learned and are they teachable?

This final chapter summarizes and explores further the questions, initially posed in this thesis and answered in the various substudies. The main findings are summarized and discussed and final conclusions are drawn. In addition, the methodological aspects of attitude assessment are considered as are the limitations of our studies. Finally, recommendations are made for attitude development in medical education and for future attitude studies.

10.2 Main findings on students’ attitudes

*The biological aspect of illness was the dominant value.*\(^3\)

10.2.1 The art of medicine and attitudes

Medical practice is influenced by physicians’ professional attitudes.\(^1,4\) Attitudes are not an extra but an essential part of medical competence, for instance in clinical decision-making\(^5\): attitudes influence the detection of patient problems, the quality of diagnostic information, the management of problems, and patient education.\(^6,7\) They also influence the doctor-patient relationship and communication.\(^1,4,8\) Lastly, attitudes have an impact on outcomes like satisfaction, compliance, and health status.\(^1,7,9,10,11,12,13,14\) Attitudes belong to the ‘art’ of medicine. While the patients’ welfare has always been the aim, medicine has largely been physician-centred.\(^15\) The ‘scientific face’ of medicine has predominated in both medical care and medical education at the cost of the ‘art’ of medicine, while the two are each others’ complement. Lately, however, medical care has increasingly incorporated patients’ perspectives and the ‘art’ of medicine has received more attention. Following this trend, Dutch medical schools have adopted educational objectives concerning attitudes.\(^2\)
The attitudes required at the end of graduate training include the ability to establish a doctor-patient relationship where the doctor can act with understanding and empathy, can take into account the patient’s perspective, feelings, and needs, can understand the psychosocial aspects of the illness, and is aware of his or her own attitudes. These attitudes coincide with patient-centredness, psychosocial orientation, care orientation, and self-awareness: the attitudes under investigation in this thesis. In our studies, more patient-centred, psychosocially oriented and care-oriented attitudes are called 'humane'; more doctor-centred, biomedically oriented and cure-oriented attitudes are called 'technological'. From the literature, it has become clear that these attitudes do not develop automatically during medical training, as had often been assumed, because of the one-sided attention to medicine as a biomedical science.11

In the past, a similar assumption about the automatic development of communication and history-taking skills in students was refuted by empirical data, indicating a decline in skills as students proceed with their education. Later studies on these skills have found that they are teachable and can persist for a considerable time if curricular attention is paid to their systematic development by means of special courses.16,17 Less empirical data are available on attitude development but it is known that attitudes are influenced and can be modified by medical education.11

10.2.2 The fate of attitudes in medical education

Many studies have demonstrated an unfavourable influence of medical education on students’ attitudes. A decline in humaneness has been found, i.e. a decrease in patient-centredness, psychosocial orientation, and care orientation as students proceed with their training.3,11,18 It has become clear that two socialising processes are at work in medical education. Alongside a process of formal attitude development in required curricular courses, another process is also influential: indirect learning in ‘the hidden curriculum’ of implicitly present norms and values.19 For example: a biomedical orientation to disease presupposes that biomedical factors in illness are more basic, true and relevant than psychosocial or cultural factors. Disease is seen as a deviation from a normal value, expressed in a number. In a learning process, attitudes are acquired by medical students as by-products of contacts with instructors and peers.20 In turn, students’ existing attitudes influence their perception and acceptance of attitudes offered: they seek out those which support their own point of view. Attitudes displayed by valued sources have a modelling effect.21,22

When no explicit curricular attention to attitudes with regard to the ‘art’ of medicine is given due to dominance of the ‘science’ of medicine, an erosion of humane
attitudes occurs and a one-sided development of biomedical and technological attitudes takes place. Only in those students who hold very humane attitudes at the start, do these attitudes remain intact. The result is a loss of empathy, patient-centredness, and psychosocial orientation in the majority of the students. Since the importance of these attitudes in medical practice has been shown, such a result of medical training gives rise to concern.

It has also been demonstrated that single, isolated courses directed at patient-centredness and comprehensive care will only have a short-lived effect on students’ attitudes in medical schools with a biomedical value climate. Newly acquired attitudes will fade and eventually disappear these when students return to their regular programme. Becker has discussed the resulting loss of humanism and idealism as a temporary adjustment by students to the pressures of medical school. If, on the contrary, medical students are supported and praised by teachers and backed by the entire formal curriculum for their efforts to elicit psychosocial information during an initial patient interview, they are likely to develop a positive attitude toward the psychosocial aspects of medical care. Studies on the effect of attitude courses that are supported by more parts of the medical curriculum have produced favourable results.

It can be concluded that medical education contributes to a process of dehumanisation if the curriculum has a one-sided biomedical orientation and if little or no formal attitude training exists. In this type of curriculum, only technological attitudes develop and they are reinforced at the cost of humane attitudes, since students do not automatically develop such attitudes. In comprehensive curricula with integrated courses directed at attitude development and a value climate in favour of the ‘art’ alongside to the ‘science’ of medicine, students can acquire and retain humane attitudes. Here, these attitudes are reinforced by the curriculum content and by the ‘hidden curriculum’, including examples of role models.

10.2.3 Students’ experiences of attitude-aimed courses
In the biomedically oriented curriculum of Utrecht Medical School, several required courses aimed at the development of attitudes have been incorporated for students of various pre-clinical and clinical years (see Table 10.1).
Table 10.1 Courses, aimed at attitude-development

<table>
<thead>
<tr>
<th>Course</th>
<th>Year</th>
<th>Sessions</th>
<th>Aims</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctor-patient communication I</td>
<td>3</td>
<td>6</td>
<td>skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>attitudes</td>
</tr>
<tr>
<td>Doctor-patient communication II</td>
<td>4</td>
<td>6</td>
<td>skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>attitudes</td>
</tr>
<tr>
<td>Clinical communication</td>
<td>5</td>
<td>6</td>
<td>skills</td>
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<tr>
<td></td>
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<td></td>
<td>attitudes</td>
</tr>
<tr>
<td>Self-reflection</td>
<td>5</td>
<td>1</td>
<td>attitudes</td>
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The aims of these courses are: the acquisition and enhancement of history-taking and communication skills; the development of patient-, psychosocially, and care-oriented attitudes; and the development of awareness of personal strengths and weaknesses in contacts with (simulated) patients. These courses have been implemented gradually for the past two decades. Since little was known about the attitudes actually held by the students, students’ attitudes were investigated in a series of evaluative and empirical studies.

Our first series of studies examined students’ experiences of the attitude-aimed courses (Chapter 2-4). In their first clinical interviews, it appeared that students experienced serious difficulties in combining a patient-centred with a diagnostic approach (Chapter 2). Since these approaches had been taught separately without a systematic integration, this result was not surprising. Students’ self-assessments showed enhanced proficiency in medical interviewing on both a diagnostic and a patient-centred level, but coping with their own emotions and entering the patient’s world remained problematic issues for the students.

Later, in a revised comprehensive course in clinical interviewing, students reported considerable benefits in knowledge, skills, and attitudes relevant to history-taking and patient communication (Chapter 3). The students seemed to feel capable of integrating medical and psychosocial aspects during their interviews with patients. Self-awareness of strengths and weaknesses in relating to patients was much enhanced by this course. Students felt well prepared for their clinical work. The difference with the former situation was the extent of prior preparation and experience acquired by
the students in pre-clinical courses in patient communication, due to adaptations in the formal curriculum. Moreover, general internists and social scientists in turn taught the new comprehensive course. Again, simulated patients were highly valued, particularly for their feedback on student communication. Data were obtained in anonymous written evaluations.

The last study of this series investigated the impact of a newly implemented short clinical course for clerks (Chapter 4). In this course, the clerks discussed and reflected upon difficult experiences in working as a (semi) professional. The aim was to foster self-awareness and to provide mutual recognition and support. During the course, feelings were expressed openly and discussions reached considerable depth; the personal involvement of the clerks was impressive to the teachers. Even though the course was given only once per group for half a day, students were able to move from reciting incidental experiences to a more general trend in their development as a person and as a professional. This course appeared to offer an opportunity to come to terms with the emotional sides of medical practice.

The conclusion of these evaluative studies is that attitude-aimed courses can make students aware of their attitudes. Moreover, students experienced and reported benefits on the attitudinal domain, especially in patient-centredness and psychosocial and care orientation. In this sense, the courses contributed to attitude development in medical students.

**10.2.4 Students’ attitudes measured by attitude questionnaires**

The second series of studies concerned the empirical measurement of students’ attitudes by means of attitude questionnaires (Chapter 5-8). Classes of students in various stages of medical education at the Utrecht Medical School were studied with regard to doctor- versus patient-centredness, biomedical versus psychosocial orientation, and cure versus care orientation (Chapter 5 and 6). More patient-centred, psychosocially oriented, and care-oriented attitudes were called ‘humane’; more doctor-centred, biomedically oriented and cure-oriented attitudes were called ‘technological’.

In general, students’ attitudes seemed to be slightly humane. The hypothesis that senior students would show less patient-centredness, psychosocial orientation, and care orientation due to a process of attitudes erosion, was not corroborated by the data. Students’ attitudes seemed to remain stable and not to change during medical training. Attitudes towards care remained the same; traits of the ‘ideal physician’ in terms of cure versus care did not change. Patient-centredness and psychosocial
orientation to illness also remained unchanged. Contrary to expectation however, a specific influence of attitude- and skills-aimed communication courses on students’ humaneness could not be detected (Chapter 7). A decline in humaneness, expected to occur half a year later in a period without such courses, was not visible.

In the earlier stages of education, small but significant gender differences were found, as was expected, indicating slightly more humane attitudes in female students. Differences in attitudes were also found between students preferring either technical of patient-centred specialties, for instance surgery versus general practice with the latter showing more humane attitudes. In a later stage of education, during vocational training, the relation between gender and attitudes disappeared (Chapter 8). Attitudes related to specialty, however, remained. Final-year clerks preferring either general practice or surgery held the same attitudes as vocational trainees in these specialties.

Two findings were surprising in this study. First, the evaluative studies reported benefits with regard to humane attitudes and self-awareness, while in the empirical studies attitudes did not seem to be influenced and remained remarkably stable during pre-clinical, clinical, and vocational training. The assumption is that attitude aimed courses did indeed influence students attitudes, but their impact served as a ‘maintenance dose’, preventing erosion of attitudes. Since a control group without attitude-courses was not available in this study, we are unable to predict which development would take place in students’ attitudes without the experience of these courses. From the literature, it seems plausible to expect a decline in patient-centredness, psychosocial orientation, and care orientation. Another assumption is that the attitude scales employed were unable to detect smaller changes in attitudes. Small attitudinal differences between male and female students’ were, however, detected in our study. A third possibility is that attitudes comprise stable as well as flexible elements; the courses may have reached those flexible parts, while the scales were aimed at the stable parts.

The second surprising finding concerns the relation between gender and attitudes. Main factors in students’ and trainees’ attitudes did not seem to be the phase of education, but, in pre-graduate students, gender. Although gender differences were small, they were statistically significant: female students held slightly more humane attitudes. Similar gender differences have been documented elsewhere: female physicians were more oriented toward the interpersonal aspects of health care, while their male colleagues were more reserved and science-oriented. This has been explained as the result of the different sex-role socializations of men and women. In graduate students’ attitudes, however, specialty preference and subsequent career
choice appeared to be the main factor, with gender differences disappearing within the specialty groups. Trainees in general practice held more patient-centred attitudes than did surgery trainees. Here, selection for vocational training plays a role, since the applicants’ attitudes are important for admission. Furthermore, during vocational training, the present attitudes are further strengthened, because of the different tasks, patient problems, and positions in the health care system of these two specialties.

It can be concluded is that a stability in attitudes, in particular in humaneness, was found in a predominantly biomedical curriculum that contained some attitude-aimed courses. Although students reported benefits of an attitude-aimed course, the impact was not sufficient to bring about a measurable change in attitudes. No signs of a decline in humaneness were visible as students proceeded with their training. Attitudes of beginning and senior students and vocational trainees were measured cross-sectionally by attitude questionnaires. Differences in attitudes were related first with gender and later with specialty preference.

10.3 Methodological and conceptual considerations

Attitudes should not be studied only as individual possessions, but always in relation to the social and cultural structures in which they develop.28

In the first series of studies, students’ attitudes were assessed using evaluation questionnaires (Chapter 2-4); in the second series, their attitudes were measured by means of attitude scales (Chapter 5-8). Although the students themselves perceived an impact from the attitude courses, no changes in their attitudes were visible in the measurements of the attitude questionnaires. The only attitudinal differences found were related to gender and specialty preference. First, it is possible that the evaluation of the impact of a course measures different aspects of attitudes than the assessment of attitudes using a questionnaire. Values, an aspect of attitudes according to the definition of Bloom,29 seem to remain constant in medical education.30,31 Attitudes in the sense of views or opinions according to the definition of Fishbein and Ajzen,32 seem to be susceptible to change by persuasion.33 If the attitude questionnaires were directed more at values and the course evaluations more at opinions, the discrepancy between the perceived impact of the courses and the measured stability in attitudes becomes more plausible. Second, the studies concerning the perceived impact of attitude-aimed courses
employed evaluative questionnaires, to be filled in anonymously by the participating students. This kind of evaluation is a form of self-assessment. Recent studies on students’ self-assessment of their skills showed increased proficiency with increased clinical experience, especially in interpersonal skills. High-performing students tended to underestimate themselves, while low-performing students did the opposite. The correlation between self-assessment and external ratings by teachers, however, seemed to be weak. It is not yet clear whether students assess non-cognitive aspects like attitudes in the same way as their knowledge and skills; different outcomes have been obtained in various studies. It is possible that the more students learn about skills or attitudes, the better they can calibrate their assessments to those of their teachers and the more critical they become because they can make more distinctions. Nevertheless, comparison of self-assessment with more objective data remains desirable.

Measuring attitudes by means of attitude scales, as was conducted in the second part of the study, poses some methodological problems. First, the context of measuring attitudes can induce the subjects to show particular attitudes. Attitudes of professionals in any field receive social support inside the professional group and within society at large. In expressing attitudes in attitude questionnaires, subjects will thus present socially supported attitudes, making it difficult to differentiate between the ‘real’ attitude and a measurement error. It is impossible, however, to separate the students’ attitudes from the professional and measurement context and treat them as true or completely objectively found attitudes. In displaying slightly humane attitudes, however, the students at least demonstrated that they are familiar with such attitudes. The second problem is that the reliability and validity of attitude scales and questionnaires are uncertain. In our studies, however, internal reliability, and content validity, convergent, discriminant, and construct validity of the employed scales seemed to be adequate. Nevertheless, comparison with data from different subjects, for instance students in other medical schools, remains desirable. Others have found similar results with regard to gender differences when employing the Doctor-Patient Scale.

One limitation of our study on attitude development among junior and senior medical students and vocational trainees lies in the study design: groups were compared cross-sectionally and not followed longitudinally. In addition, there were no control groups without attitude-aimed courses in the study on vocational trainees, the number of subjects was very limited. These conditions limit the generalizability of our data. Attitudes should first be studied in the context in which they developed; in this
sense, the Utrecht Medical School is the context of the students’ attitudes and comparison with attitudes of students in other medical schools is the next step.

A final critical remark concerns the bipolarity of the concepts in the attitude scales of patient- versus doctor-centredness, psychosocial versus biomedical orientation, and care versus cure orientation. In a recent theoretical overview, the bipolarity and unidimensionality of attitudes was criticised and the complexity of attitude structures, in the form of networks, was proposed. Studies on political liberalism versus conservatism have cast doubt on the unidimensionality and suggest two relatively independent dimensions instead: liberalism and conservatism with a low negative correlation. Although this invalidates the construct validity of our attitude questionnaires, it does shed a new light upon the unexpected absence of change in attitudes.

The art and the science of medicine, as well as humane and technological attitudes, in this study seen as two ends of one dimension, be seen as different but complementary dimensions, both having their merits and limitations. The importance of each dimension can change for the students as they proceed with their training, without resulting in a visible change in one-dimensional scale scores. It would be worthwhile to study attitudes toward patients, illness, and care in two dimensions instead of only one.

10.4 Implications for medical education

*We believe that strongly positive educational efforts that begin early and extend through medical school are needed to enhance the humanistic interpersonal skills of future physicians.*

The art and the science of medicine are both needed in medical practice. In medical education, the science of medicine is incorporated in the entire curriculum. The art of medicine, however, receives less attention. The attitudes, needed in the art of medicine do not develop automatically while following the biomedical curriculum, they run the risk of erosion. If medical schools want to foster attitudes in their students in accordance with the attitudinal educational objectives, special programs supported by the entire educational programme and by teachers in the pre-clinical and clinical years are needed (Chapter 9).

In our studies, it appeared that the existing courses were insufficient to bring about a measurable change in attitudes into a more humane direction. Either more educational effort or different courses are needed than the existing one communication course per
Final discussion, conclusions and recommendations

10.4.1 Which attitudes should be taught?

Which attitudes are the ‘right’ attitudes (Chapter 9)? The welfare of the patient is the aim of medicine. Alongside attitudes towards a scientific way of practising medicine, attitudes towards the patient, towards the doctor-patient relationship, and towards care should be explicitly developed in medical education. Here, the ‘right’ attitudes consist of attitudes conducive to the welfare of patients, to a good doctor-patient relationship, and to a good delivery of care. Attitude development should be directed at three domains: the student, as a person in a professional helping role; the patient, as a person with an illness; and the medical context in which the care is given. Furthermore, the interaction between these three domains should be taken into consideration.

A distinction can be made in attitude development, between the ‘inside’ of attitudes, i.e. beliefs and feelings, and the ‘outside’, the overtly manifested attitudes in terms of observable behaviour or skills. The ‘inside’ and the ‘outside’ of attitudes are related, although the relationship is complex. For example, opinions of students on what constitutes ‘a pleasant patient’ play a role and can be observed in the actual communication skills manifested by that student towards a particular patient. Medical education is directed at both the inside and the outside of students’ attitudes. The curriculum year. These courses probably serve as a ‘maintenance dose’, preventing an erosion of attitudes and a decline in humaneness. In a study on the development of diagnostic interviewing skills, it has been stated that newly acquired skills that have not yet become ‘automatised’ may be easily pushed aside by new educational activities. Smooth activation of these skills requires extensive and repeated application and exposure to patient problems. It is possible that the same principle is valid in attitude development.

Attitude development, in our assumption, concerns a domain close to the development of communication skills. Communication skills can be acquired rapidly and may be retained for several years; they can, however, decline without ongoing training and practice. While acquisition of humane attitudes through special courses is possible, it seems to demand considerable and sustained effort. Encouraging results have been obtained in curricula designed to master the humanistic aspects of medicine alongside the scientific aspects. Special courses directed at psychosocial skills result in improved skills plus more favourable attitudes towards psychosocial care. Students demonstrate greater psychosocial knowledge, better relational skills as well as more humane attitudes.
inside of attitudes concerns the knowledge and value of the importance of attitudes in medical care, of the doctor-patient relationship, of self-awareness, and of psychosocial factors in illness. The outside of attitudes can be developed in the form of skills in communicating, history taking, and relating to patients and colleagues. The development of attitudes in terms of skills should result in an outcome, a product: the correct relational skills. In addition to this product-oriented aim, a process-oriented aim is also relevant. This aim consists of the awareness of one’s attitudes and their impact on professional behaviour, and of handling one’s attitudes in relation to patients and colleagues. Feelings and opinions on patients and medical care, awareness of these feelings and opinions, and awareness of their influence on professional behaviour should also be subjects of attitude courses. The skills needed here consist of self-reflection and self-observation. Thus, attitude development is directed toward the acquisition of relational and self-reflective skills, and knowledge of the importance of psychosocial aspects in care. A list of the 'right' skills and knowledge should be accompanied by steps or phases and formats of development. In addition, criteria have to be formulated as end-terms for assessment.45

10.4.2 How should attitudes be taught?
It has been stated that fostering humane attitudes in students requires a humanizing of the educational process.24 Attitude courses should be an integrative part of the entire medical curriculum. They should start at the beginning of medical education and continue until the end of the clinical years, as described in Chapter 9. In a longitudinal trajectory, important phases in the process of professional and personal development of students can be followed and new experiences can be elaborated and reflected upon. Students then have the opportunity to handle the emotional sides of these experiences instead of repressing their feelings and resorting to distant behaviour.46,47 This approach can raise the awareness and handling of attitudes in professional behaviour and practice the skill of self-reflection. To raise attitude awareness by means of acquiring self-reflective skills, a didactic model has been developed; students learn a procedure to reflect upon their attitudes in the three domains of patient, student and medical context.48 In this model, several distinctive steps in reflecting have been incorporated, starting from students’ experiences and continuing to plans for action.
In the pre-clinical years, courses directed at communication and history-taking skills are important. Other skills courses should also incorporate attitude development, since attitude development needs to be integrated into the professional behaviour of the
student. Apart from the integrated curriculum structure, the instructional style of attitude courses is important. To encourage the development of relational and self-reflective skills, boundaries between different curriculum contents or subjects have to be open; this has been called a 'weak classification' of subjects. Furthermore, the control over the selection, organization, and phasing of the course content, the 'framing', should rest not only with the teachers but also with the students. It has been demonstrated that weak classification and framing encourage the development of interpersonal and attitudinal qualities like empathy, while strong classification and framing encourage factual, cognitive learning and retention.49

The learning environment should consist of small groups, an interdisciplinary faculty, mentorships, contacts with patients, case discussions, skills training, and continuous feedback to students, especially in the clinical years, preferably in the form of supervision. This requires a highly trained staff, as teachers also have a facilitative role. The aims of attitude development should be defined in terms of observable student behaviour in order to assess whether these aims are met (see Chapter 9). Relational and self-reflective skills, as well as knowledge of their importance, should be assessed as a part of the medical curriculum.

10.4.3 How can attitudes be assessed?

How should students’ attitudes be assessed or graded? Rezler18 describes several forms of attitude assessment for medical teachers: direct methods like attitude scales to capture the covert, internal side of attitudes. Indirect measures, involving judgement in case vignettes, can be used to compare individuals or groups. Behaviour observation can be carried out by means of rating scales to assess behaviours that overtly reflect attitudes.

In our view, the assessment of attitudes is restricted to the outside of attitudes, i.e. the self-reflecting and relational skills resulting from the attitude objectives,50 and to the knowledge of psychosocial aspects of care. The inside of attitudes, regarding students’ personal opinions, views, and feelings, belongs to the privacy of the student. Thus, the professional knowledge and skills needed in self-reflection and relating to patients and colleagues are subjected to assessment, not the personal feelings or norms of a student (see Chapter 9). This form of attitude assessment in terms of
skills assessment can be realised in skills tests, as a part of objective structured examinations, and in testing the ability to reflect upon one’s attitudes, as a part of continuous assessment. Knowledge can be tested with the usual forms of examination.

10.5 Recommendations for future research
More insight is needed in the exact conditions favouring attitude development in medical education: comparison of the impact of different curricula, course aims and formats, instructional styles, and teachers’ attributes on students’ attitudes in descriptive and intervention studies with control groups. A literature review of recent developments should be the first step. In addition, more research is needed to study the impact of skills training (the outside of attitudes) on students’ opinions, views, and values (the inside of attitudes). A distinction between more flexible opinions and more stable values would also be useful on the conceptual level with regard to the definition of attitudes. Finally, separate measurement scales of humane as well as technological attitudes should be developed; these scales should consist of two instead of one dimension.
10.6 References

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