

The First Steps Towards Professionalism? A Qualitative Study of Medical Students' Experiences With Patients' Emotional Issues During a Medical Interview

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Abstract

Background: There is evidence that self-reported empathy decreases as medical students go through clinical training, but few in-depth studies have investigated students' own experiences with empathy during medical interviews. We therefore wanted to explore this topic qualitatively by studying medical students' perceptions, experiences, and reflections during communication with patients expressing emotional issues in an arranged medical interview.

Methods: A qualitative content analysis of semi-structured interviews with third year medical students (N=11) was conducted using video-stimulated recall from their own medical interview with a simulated chronically ill patient. Students were led to believe that the patient was real.

Results: Six themes which may influence student empathy during history-taking were identified through analysis of interview data: (1) Giving priority to medical history taking, (2) Interpreting the patient's worry as lack of medical information, (3) Conflicts between empathy and professional identity, (4) Empathy as a technical communication skill, (5) Striving for a professional form of empathy and (6) Disagreements on whether communication of empathy must be heart-felt.

Conclusions: The participating students described conflicts between a medical agenda, rules and norms for professional conduct and the students' own judgments when trying to empathize with the patient. Educators should actively encourage group discussion and reflection on these underlying conflicting norms and values as part of the formal curriculum, and consider possible side-effects of the medical curriculum, including the communication skills teaching, on students' empathy.

1. Background

Entry into clinical care represents an existential and moral challenge for medical students as they are faced with the suffering of others and have to learn how to deal with this emotional aspect of their work as physicians to be (1). The main activity in which medical students interact with patients is the medical interview (2). In the course of a medical interview, students are expected to retrieve medically relevant information while at the same time paying attention to the existential and affective dimensions of the relationship with the patient (2–4). The ability to demonstrate empathy is internationally recognized as a key clinical skill in medical education (2, 4) and in medical practice in general (5, 6). Empathy in medicine can be broadly defined as the appropriate understanding and communication of the patient's experiences and has been reported to encompass cognitive, affective, behavioral, interpretive and moral aspects (5), but controversies still remain as to how empathy in medicine should be defined.

Despite evidence that self-reported empathy decreases as medical students go through clinical training (6, 7) there are few in-depth studies of students' own experiences with empathy in medical interviews with patients (8). Students have been reported to want to form emotional bonds with patients (9) but are ultimately worried about the potential of being overwhelmed emotionally themselves (10) and tend to focus on collecting medical facts before devoting attention to patients' life experiences (11). Surprisingly

little attention has been paid to the emotional development of students in medical school curricula, and to a certain degree medical education today still encourages students to distance themselves from both their own and their patients' emotions (12, 13). Some recent qualitative studies on medical students' empathy have explored students' perceptions, conceptualizations, or experiences with empathy more generally (14–16). To our knowledge there are no previous in-depth studies on how medical students understand patients' emotions during the medical interview. In a recent meta-analysis of 206 studies on empathy in medical practice, none were reported to look at “concrete details about what the patient or physician understood/misunderstood”. The aim of the present study was therefore to explore students' perceptions and experiences when trying to understand and communicate with patients expressing emotional concerns in a medical interview.

2. Methods

We conducted a qualitative study with video-stimulated recall interviews to answer the following research question: What characterizes students' perceptions, experiences, and reflections during communication with patients expressing emotional issues in a medical interview?

2.1. Participants

We enrolled eleven third year medical students (six female and five male) as well as four trained female actresses serving as simulated patients (SPs). Another eight students volunteered to join the study, but these were not included since we found that the richness of the data with 11 students was sufficient to answer the research questions (17). Since the study was not defined as health research, we were, according to Norwegian regulations, exempted from the obligation to seek approval from the Regional Committee for Medical and Health Research Ethics. The protocol for the research project was approved by the Norwegian Social Science Data Services where aspects of privacy protection were assessed (project number 39888). To ensure anonymity all 11 participants were given pseudonyms. All eleven students first completed a medical interview with a SP, before qualitative interviews were conducted by KØB and HES with each student using video stimulated recall (further described in Sect. 2.2.1 below). None of the participants had any relationship or prior knowledge of KØB and HES's role in the study other than that they both were fellow senior medical students. We did not inform students that the patient was a simulated patient until after each individual interview session with the student was over. Apart from deliberately withholding information that the students were in fact conducting the interview on a simulated patient and not a real patient, written and voluntary informed consent was obtained from all participants. Students were offered a complimentary feed-back session on their clinical communication by a trained communication skills expert in appreciation of their contribution to the study. Further context information about the students can be found in box 1.

Box 1. Context

The students were recruited from a higher education institution in Norway. In their third year, these students learn and practice clinical skills with patients at a university hospital, such as medical interviewing, physical examination of patients, differential diagnosing, and further patient follow-up. The students independently conduct a minimum of 12 medical interviews and physical examinations of new admissions that are documented as a standardized admission note in the patient's medical records to be approved by a faculty representative. All of the students had completed prior mandatory courses in communication skills as part of their medical training, including an experiential clinical communication skills course with patients where they practiced "gaining the patient's perspective."

2.2. Setting

The study was conducted in spring and autumn 2011 in a communication lab set up to resemble a general practitioner's office. For each of the eleven medical interviews, the student first received standardized written instructions on her assignment at hand ("The goal of the consultation is to identify the most important features of the patient's health condition") as well as a fact sheet on the diagnosis of the patient. We purposely gave the students a task which was very similar to what they would have been given in a typical clinical training situation. Participants were given a time-limit of 20 minutes to conduct the interview and the mean consultation time was 19 minutes and 20 seconds. All consultations were observed on video-link by HES and KØB and recorded on video (18).

The actors simulated a patient case with polycystic kidney disease from a standardized script developed by KØB, HES, and RP in collaboration with the four simulated patients. The actors were instructed to display emotions related to two problematic situations in the patient's life: (1) worry attributed to the patient's insecure future for her and her family resulting in sleep disturbances, and (2) anger/frustration with the father's primary care physician due to a long delay in the diagnosis of polycystic kidney disease (autosomal dominant inheritance) making it impossible for the father to have transplant surgery because of his age and medical condition (and therefore becoming dependent on dialysis for the rest of his life). The SPs (referred to as "patient" hereon forth) could freely choose when they would exhibit these emotional concerns (ECs) during the consultation, but were instructed to do so several times, at varying intensities and with verbal as well as non-verbal behavior (18).

2.2.1. Video-stimulated recall interviews

Directly after the end of the consultation the patient reviewed the entire video recording of the consultation accompanied by two members of the researcher group (KØB and HES). The patients were instructed to stop the video at the specific points in the video where they displayed these ECs, referred to below as EC moments. The patients were then interviewed each time about why they stopped at the particular EC moment, about which scenario they portrayed and how they experienced the communication using a semi-structured interview guide.

Directly after, each student was shown sequences with these ECs (referred to below as EC sequences) from his/her medical interview in a video-stimulated recall interview with both researchers (HES and KØB). The EC video sequences were started approximately 30 seconds before the EC moment indicated by the patient and ended approximately 30 seconds after. Some EC sequences included more than one EC moment since several EC moments could be registered within the one-minute EC sequence. Due to time constraints, not all EC moments were shown to students. Instead, the researchers (HES and KØB) would show as many ECs moments as possible and made sure all students viewed at least one EC sequence from each of the two problematic situations. The number of EC sequences shown to each student ranged from two (containing four EC moments with a total duration of two minutes and 43 seconds) to seven (containing eleven EC moments with a total duration of seven minutes and 23 seconds).

The EC sequences served as stimuli for recall of the student's own experience of the events depicted in the videos. The students were thoroughly given notice that this procedure was not an examination of any kind, merely an attempt to share thoughts and experiences about interviewing a patient about their health condition. They were further encouraged before each viewing of each of the EC sequences to try to remember what they thought or felt during the medical interview, and not what they thought or felt when reviewing the EC sequence. Students were informed that these sequences were selected because something important had happened or that the patient felt that something important happened in these sequences. For each EC sequence students were interviewed on what they thought the patient was conveying in that particular EC sequence, how the student reacted to what was conveyed, what they thought influenced their response to the patient and how they felt the contact was with the patient. Each of these EC sequence interviews will be referred to as mini interviews in the remainder of the text. The stimulated recall interviews lasted between 25 and 45 minutes for each student and were recorded on a digital audio-recorder.

After the video-stimulated recall interviews, the students were interviewed more generally about empathy. Results from this other part of the interviews with the students has been published already and showed that five aspects of the physician's role and the students' role acquisition emerged when the students were asked to describe what may influence their empathy: 1) Becoming and being a professional, 2) Rules concerning emotions and care, 3) Emotional control, 4) The primary importance of biomedical knowledge, and 5) Cynicism as a coping strategy (16).

2.3. Analysis

The eleven video-stimulated recall interviews as well as the medical interviews were transcribed verbatim. To answer the research question, a qualitative content analysis of the video-stimulated recall interviews as well as relevant parts of the more general interviews on empathy was conducted (19, 20). Two of the authors (KØB and RP) read and analyzed the material in a series of meetings, and subsequently identified and discussed key themes relevant to the research question based on existing theories and earlier research. The main author then selected and condensed data pertaining to the key themes. NVIVO 12

software was used for data analysis. This study adheres to the COREQ 32-item checklist for reporting qualitative studies (21).

3. Results

In general, the students commented on both the worry and the anger/frustration situations in the recall interviews. All students mentioned both the factual details about the patient's situation and the patient's emotional reactions to the events the patient had gone through. When asked about their own experiences during the medical interview however, students often found it difficult to remember or articulate what their own emotional reactions were. Generally, the patient's situation was described in the recall interviews with more general terms such as "understandable" or "recognizable" and students only occasionally reported having shared the patient's emotional experience or having felt empathic concern for the patient such as being touched, being moved, feeling sorry for, or feeling compassion or sympathy. Most students remarked how the patient was easy to talk to and that she was willing to share. Many of the students thought that the patient's emotional concerns were uttered because the patient had a need to vent her feelings. The patient's willingness to share was in most cases interpreted as a sign of trust or good chemistry.

Through our analysis of the students' perceptions, experiences, and reflections in the recall interviews, the six following key themes emerged: (1) Giving priority to medical history taking, (2) Interpreting the patient's worry as lack of medical information, (3) Conflicts between empathy and professional identity, (4) Empathy as a technical communication skill, (5) Striving for a professional form of empathy and (6) Disagreements on whether communication of empathy must be heart-felt. The results presented below are structured according to these themes. Since there is some overlap between the themes, some results could be presented/categorized under more than one theme.

3.1. Giving priority to medical history taking

Some students reported that their attention was primarily directed at remembering and completing the different tasks of the medical history taking and that they therefore were disrupted from or became inattentive to the patient's ECs. This included focusing on the list of mandatory questions in a medical interview such as questions on hereditary diseases; finding out what to ask for next and covering all the different parts of the standard medical interview. Susan reported during an interview that she thought to herself:

...medical history, medical history, medical history, now suddenly I'm a doctor [...] I was actually a bit preoccupied with remembering what I should ask about. And when she started bringing up the thing about the father having cystic kidney disease, it was sort of an OK transition into asking about hereditary diseases.

Sometimes, the patient's emotional concerns were interpreted as information relevant for further medical interviewing. James told how "the student or professional in me woke up" when the patient told of bad

sleep lately. As it is a typical symptom of depression, he started thinking about a scale for diagnosing depression. This distanced him a bit, he felt. He tried to do the right thing in asking about her emotional or mental health. Consequently, he felt like he dealt with the situation a bit more schematically and rationally, rather than being open and empathic, and he hoped that the patient wouldn't notice the change in him.

3.2. Interpreting the patient's worry as lack of medical information

When interviewed about what influenced their responses to the patients, students often reported having interpreted the patient's emotional worry as a concern which could be handled with medico-professional help or advice. Students tended to think that the patient's concern about the future was caused by a lack of medical information. Consequently, they saw it as their primary task to offer expert information or advice or offer reassurance in response to patient's emotional worry. This interpretation of their role influenced student responses in a number of ways.

Some refrained from providing medical information or advice as a response since they felt they lacked medical competence, knowledge on prognosis, or were not yet in the proper professional role. Hannah wanted to say to the patient that she might not experience the same thing as her father but thought that she did not know enough about the disease to do so. She did not know how far she could go in reassuring the patient without doing this on false premises. Instead, she said she protected herself by saying as little as possible.

Others used themselves as a reference and provided advice or reassurance the way they would have liked to receive it themselves, if they were the patient. For example, Susan felt that the patient was not informed sufficiently well and did not know what was going to happen next. She herself would have wanted more information. Consequently, she replied to the patient: "Maybe it will be better once they start a proper treatment and you become more aware of the situation". Later in the mini interview she added that she was very aware about not answering about things like prognosis. She felt that she was on thin ice and did not want to say anything wrong.

A few students considered themselves competent enough to give medical information. Jack found an opportunity to give advice. At a point in the interview, he felt that the patient was conveying worry about potential transplant surgery, but also uncertainty about what surgery meant. He felt a need to clear up her expectations in that situation and provided her with information on how not everyone with PKD will need transplant surgery. Still, he did not want to go too deep into the matter since he did not feel like he had the professional competence. He said that this way she can take this information with her to her primary care physician and discuss it with him.

3.3. Conflict between empathy and professional identity

Most students talked about how the frustration scenario placed them in a conflict between identifying with the patient's perspective and that of the primary care physician. This seemed to result in more

limited responses from the students towards the patient in these situations.

Some students identified themselves primarily with the primary care physician. Susan remembered thinking that she was sitting there as a physician. And as a physician she could imagine that such a thing might happen in a busy professional life. She instinctively felt the need to protect the primary care physician, but shortly after realized that that was not what the patient needed. It was better to just receive the patient's frustration instead of opposing it. Hannah on the other hand, was unsure and curious about whether a mistake had been made or not. She further reflected on whether she really had to know the truth to express agreement with the patient - maybe she should just agree without knowing.

Other students identified more with the patient. Daniel remarked that her version did sound frustrating, but that he himself did not feel that he had enough knowledge to become angry himself. He did not feel like he could take part in frustration towards a physician he had never met and did not have a personal relationship with. Michael mentioned that he recognized the picture she was painting; he had heard similar stories before. Michael however, felt that that this was not right, it was not supposed to be that way, and that affected him. Emma mentioned how she recognized the situation the patient was in from her own life. She herself had experienced how it is to have a sick father. This made her more able to understand the situation the patient was in. She added that she would have asked more about whether the patient's experience affected her trust in the health-care system if she had more time or was her actual physician.

3.4. Empathy as a technical communication skill

When commenting on attempts to communicate understanding or interest back to the patient in the videos, students usually used technical terms to describe how they responded to the patient such as through active listening and facilitation. It was important for them to find ways to let the patient talk about her feelings and show to the patient that they indeed had understood what was being said to them. Susan told of how she in one situation, when the patient spoke of her father's condition, tried to be supportive without saying too much, to "facilitate" the patient a bit. She remarked that she mostly just nodded and said "yes" and was trying to seem "professionally understanding". According to her experience, as long as you show that you understand – even very briefly - it is ok - and she hoped that the patient saw that she listened. She adds that maybe you do not have to verbalize too much, and that often if you do that can be awkward. Emma described facilitation as a good conversational technique since you can show empathy without really feeling anything yourself. She added that there isn't necessarily anything wrong in that, since there is no way to tell that the patient knows that you are being honest or not. She herself thought that all physicians were honest and sincere before she started medical school and learnt about conversational techniques and facilitation.

Other students talked more of empathy as a tool or technique in clinical practice. Michael claimed that as a clinician you use empathy consciously as a tool to achieve something. In real life, i.e., as a "normal" fellow human, empathy is more real. He mentions that maybe you use it a bit artificially in clinical situations even though you are supposed not to. And although you might do a bit of play acting and is

extra understanding to achieve something - to provide the feeling of safety or to get more information - he says it is important that it does not turn fake either.

3.5. Striving for a professional form of empathy

Many students were critical of their own behavior. Students often said that they would try to show more understanding or empathy if they had the opportunity. Many students told of difficulties knowing what to say and especially what would be the right things to say as a professional, and this uncertainty seemed to result in the students being more reticent towards the patients. Mary remarked that the patient was trying to say that she was not happy about her father's physician since her father's diagnosis came too late and was worried that the patient had already lost trust in the health care services. The student thought "[name of clinical communication skills teacher], what do I say now?", and wondered how she was supposed to convey to the patient that she understood what the patient was saying. Hannah reported that she did not know if she was allowed to ask the patient the questions, she was really curious about, since she was afraid these questions would be too personal. This made her feel like a coward, like she was tied up. She felt this was not right, but at the same time she could not cross the line over to the more personal level like she wanted to, and say that this is going to work out, maybe even touch her physically with her hand, and say things like "you seem like a strong woman". She chose to suppress these impulses because she felt like she had to be professional. She said that she has learnt in medical school that if you freak out, then the patient will freak out as well. She further adds that you are supposed to be sensitive and empathic in a professional manner, but that she does not know how, since she has never been professionally empathic in her life.

3.6. Disagreements on whether communication of empathy must be heart-felt

When interviewed more generally on the role of empathy after the video-stimulated recall session interviews, students disagreed on whether one really had to be authentic or sincere to communicate empathy. Susan said she thinks patients catch onto "fake empathy" very quickly – i.e., the physicians who do not feel any kind of empathy but still say they do. This will, according to Susan, only be attempts at empathy, but not real empathy, more like a "textbook"-form of empathy. She further added that the empathy must be real-felt- you have to feel that the person cares and understand – both emotionally and cognitively. If not, it does not matter what you say. You are supposed to try to understand the patient and want what is good for the patient - that must always be a core concern. James reported that he feels guilty when he does not react emotionally. He thinks it is a virtue to meet patients with an adequate level of empathy and compassion and express it. On the other hand, he also claimed that it does not matter to the patient what the physician feels. Mary reported that she is afraid to say things that sound "made up" since you contradict yourself in saying that something is sad to hear and then just move on by changing the topic of the conversation.

Finally, a few students found it ok to communicate empathy unrelated to what they themselves experienced. Jack claimed that you can think whatever you want inside your head as long as you respond

and act in a way that shows you are trying to understand, even though you do not. Susan said she found the patient's story sad when reviewing it, but when asked if she could remember what she actually felt during the medical interview, she revealed that she entered a role – she distanced herself and did not feel the reality of it there and then.

4. Discussion

The third-year medical students who took part in the present study articulated some of the difficulties related to the experience and demonstration of empathy in patient encounters and shed light on several important conflicting ideals in medical interviewing and medical education.

One key finding from this study is that some of these students reported that they were primarily occupied with remembering and asking the different questions involved in recording the patient's medical history and that these cognitive tasks interfered with empathic engagement with the emotional aspects of the patient's concerns. Most quantitative studies which document a decrease in self-assessed student empathy point to high levels of distress (7) originating from students' first encounters with the "hidden" or "unofficial" curriculum as a possible causal mechanism (7, 22). In a qualitative analysis of more general interviews on empathy from our research project, some of the same students argued that acquisition and possession of biomedical knowledge was considered more important than the emotional and relational aspects of patient encounters (16). While attitudes conveyed through the hidden curriculum are likely to influence priorities made by students in medical interviews of patients, the results of the present study suggest that students rarely deprioritize the patient's emotional concern deliberately. Rather, the students are inattentive to such concerns because the students are too cognitively focused on medical history taking. Another possible reason is that the students' horizons are shaped in a way that makes it more likely that the patient's concerns are interpreted within a medico-professional frame of reference (8), for example when the students interpret the patients' expressions of worry as needs for further information. Empathy also involves curiosity about another's distinct experience (23), and it has been claimed that the natural curiosity with which students enter medical school, atrophies as they become gradually more assimilated within medical culture (24). When attempting to accommodate to implicit or explicit ideals of medical history taking, students can miss important aspects, for example how the illness affects this individual patient (25) and the individual patient's needs and preferences.

Another key finding from this study, is that although these students described recognizing and understanding the patients' emotions, they only occasionally experienced empathic concern for the patient. In general, the students' understanding reflected the ideal of cognitive empathy which is generally encouraged within medical education (5, 26). This more objectivistic form of empathy is closely related to the idea that it is possible and advisable to understand the patient's perspective without being affected emotionally and without bias (8, 26) and to ideals of detached concern(13), affective neutrality (27) and a more general form of objectivism that have been reported to be present in medical schools (28).

The empathic experiences reported by the students may very well reflect a transitory phase as they adapt to their recently acquired professional identities (11, 16). The way students approach patient emotion much resembles Wahlqvist's qualitative analysis of how students at the end of their studies initially approached patients as attentive and with a listening attitude, but nonetheless employed instrumental strategies to communication and therefore did not "permit their own individuality to emerge in the encounter". This study also supports Wahlqvist's claim that there is a skill-training, standardizing phase which affect students' perceptions of the physician role and diminish variations in communication styles.

However, other studies suggest that students will not make use of later opportunities in their careers to develop a more alternative way of communicating, but will continue to respond to patient emotion with biomedical questioning, information giving, nonspecific acknowledgement or premature reassurance (29–35). For example, Agledahl et al. demonstrated that physicians working in hospitals mask a neglect of patients' existential worries with politeness (36). These physicians actively directed focus away from patients' existential concerns, focused more on medical facts and rarely addressed personal aspects of patients' situations. We find it likely that the students in our study may end up adopting such a pattern of communication as certified physicians since they - at least partly - at an early stage of their clinical careers seem to deprioritize personal, existential and emotional aspects and give priority to what they are implicitly or explicitly taught are more "professional" ways to respond to patients.

Finally, these students reported how they felt to be bound by norms and rules for how to communicate empathy to patients (37). While empathy was generally regarded as important and appropriate in the situation, some students struggled with combining empathy and compassion with professional norms and ideals. While the recent addition of communication skills training to the medical curriculum certainly has put empathy on the agenda, some students seem to regard rules for professional communication with patients as absolutes. It is possible that communication skills courses may contribute to this uncertainty by providing the illusion that there is always a professionally correct way to respond or communicate. If the institutional role in which students find themselves permits little or no space for the expression of their own emotional reactions, interpretations and judgments, the very format of the medical interview may contribute to reduce awareness of or even extinguish students' affective responses and expressions of own interpretations. Roter and Hall claim that roles in provider-patient relationships are just a kind of conformity, not moral codes or rule of law (38). Our results nuance this claim in that implicit or explicit ideals for medical interviews and professional empathy can be perceived as guiding principles of conduct as well as rules for professional or right empathic behavior.

Larson and Yao argue that we see the physician's role in empathic interaction as that of an actor (39). They distinguish between surface acting and deep acting where surface acting describes engagement in empathic behavior without the empathic reaction, but instead focuses on outcomes. Deep acting on the other hand denotes emotional labor; an attempt to enter into an empathic and personal relationship with the patient. They further argue that both can be needed in clinical practice and that there are no apparent ethical issues in this because we as human beings hide our true feelings all the time. We would however argue that the discrepancies seen between students' instrumental ways of providing understanding to

patients (such as the application of skills or techniques to let the patient vent her feelings) and their own more personal or lay norms of empathy indeed constitutes a moral dilemma. We find it worrisome that students are sometimes taught to perform forms of play-acting to convey that they understand the patient's emotional issues regardless of what the students are actually thinking and feeling. By separating instrumental outcome-focused empathic behavior from the broader interpretive, interpersonal, moral, existential, and emotional dimensions of empathy, important aspects and relations in clinical perceptions and judgment may be lost. The main focus of students seems to be on the parts of the patients' narrative that the students can act on as physicians and not to what they can respond to as fellow humans. If medical students are mainly encouraged to perform medical tasks effectively and not meet patients as fellow human beings, core aspects of the students future role as physicians seem to be challenged at an already early point in their careers (40).

This study provides new knowledge of medical students' own experiences and perspectives on empathy in medical interviews through qualitative inquiry rather than statistical data and these findings are also supported by observational data published elsewhere (18). An additional strength is the use of detailed, in-depth video recall-interviews in what the students thought were medical interviews with actual patients. Due to the location of the study (the department responsible for their communication skills training), the participating students were probably more than averagely interested in empathy and communication. The fact that we used simulated patients instead of real patients may have influenced the answers provided to us by the students. We further encourage scholars to conduct more research with innovative solutions to studying a complex phenomenon such as empathy in a clinical setting.

Conclusion

In this qualitative analysis, six themes which may influence student empathy during history-taking were identified: (1) Giving priority to medical history taking, (2) Interpreting the patient's worry as lack of medical information, (3) Conflicts between empathy and professional identity, (4) Empathy as a technical communication skill, (5) Striving for a professional form of empathy and (6) Disagreements on whether communication of empathy must be heart-felt. The participating students described conflicts between a medical agenda, rules and norms for professional conduct and the students' own judgments when trying to empathize with the patient. Educators should actively encourage group discussion and reflection on these underlying conflicting norms and values as part of the formal curriculum and consider possible side-effects of the medical curriculum, including the communication skills teaching, on students' empathy.

Abbreviations

SP: Simulated patient

EC: Emotional Concern

Declarations

Ethics approval and consent to participate

We confirm that all methods were carried out in accordance with relevant guidelines and regulations. Since the study was not defined as health research, we were, according to Norwegian regulations, exempted from the obligation to seek approval from the Regional Committee for Medical and Health Research Ethics. The protocol for the research project was approved by the Norwegian Social Science Data Services where aspects of privacy protection were assessed (project number 39888). Apart from deliberately withholding information that the students were in fact conducting the interview on a simulated patient and not a real patient, written and voluntary informed consent was obtained from all participants.

Consent for publication

Not applicable.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests

All authors (KØB, HES, RP and AF) declare that they have no competing interest: no support from any organizations, no financial relationships with any organizations and no other relationships or activities that could influence the submitted work.

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Authors' contributions

KØB developed the research design, developed the interview guide, recruited participants, interviewed students, analyzed the qualitative data, and wrote the manuscript. HES developed the research design, recruited participants, interviewed students, developed the interview guide, and participated in writing the manuscript. AF developed the research design and participated in writing the manuscript. RP developed

the research design, developed the interview guide, analyzed the qualitative data, and participated in writing the manuscript.

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