The logic and chronology of consultations in general practice - Teaching consultation skills in medical school

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Categories: Research in Medical Education, Students/Trainees

Received: 13/10/2016
Published: 24/10/2016

Abstract

Introduction

Teaching consultation skills requires a structured description of consultations. The objective of this is to describe how consultation topics may be classified and ordered logically.

Methods

All our last semester medical students make video recordings of their consultations with real patients. The feedback method is systematically developed into a grading system that takes into account both structure and content.

This includes the relevance of the topics handled, the extent to which they cover all aspects of the clinical problems of the patient, whether the goal of each step is reached, and the extent to which the topics are handled in the logical order.

Results

The consultation may be described in nine steps. The order of steps is based on the logic of clinical reasoning. Each topic can only be placed on one step. The steps and logic is shown in Table 1. Figure 1 shows the relationship between the theoretical logic and the actual chronological order of events in the consultation (Table 1, Figure 1).

Conclusion and Practice Implications

The analysis is straightforward and may be used when teaching. The system is being developed further for pre- and post-graduate use in research and quality development.
**Keywords:** communication skills; medical education research; primary care; undergraduate

**Introduction**

The authors have been teaching medical students at the University of Copenhagen Section Of General Practice for over twenty years. The department is currently in the final phases of a project to improve the teaching of consultation skills in general practice.

An important part of the teaching is a classification of the topics of the consultation for use when analyzing video recordings of consultations and to optimize the feedback process in general. The method is based on the principles of patient-centered medicine as this is associated with improved patient satisfaction [3], and less use of health care resources [4].

The method is being developed further into a scoring system to compare the students' skills before and after the family practice course, DanSCORE (Danish Structured Consultation Observation, Recording, and Evaluation).

DanSCORE is currently being tested in a series of controlled trials to evaluate the effect of systematically adding different forms of e-learning to the usual teaching in the classroom and in clinical practice. Data from this part of the study comprising 554 last semester medical students have been collected and analyzed. (554 A and 414 B, in total 968 schemes from 12 different groups). All groups of medical students have the same distribution of scores the same at the start of the course.

Several rating scales are available [5][6], but we think there is a need for a system that may be integrated into the total education from student to specialist in general practice.

We need to establish a classification of the topics handled in a consultation, establish a logical ordering of these, and develop a set of questions to demonstrate whether each topic has been treated adequately.

The aim of this part of the project is to describe a classification of the topics handled in the consultation process, test whether this classification is exhaustive and exclusive, and describe the logical order of the topics that may appear in a consultation.

**Method**

The system has been developed in the context of the medical school curriculum. Medical students in Denmark were first introduced to the specialty of General Practice medicine in the 1970s when classroom teaching in the last semester was offered along with a short, voluntary stay in a general practice clinic with voluntary tutors. General practice became mandatory in the last semester some years later, with each student having a 5 week individual stay at the office of a GP, and in 1992 the formal exam was introduced at the end of the course.

The course

During the course the students spend eight days in the office of a general practice tutor, sitting in on the consultations and later discussing what the GP did and why. Each day, the student is given the opportunity to conduct a couple of consultations with real patients on his own, working in the role of a GP. The GP finishes the consultation, including prescription, referral etc. and discusses the process with the student. The student-patient consultations are video
recorded and later used in the group teaching at the department.

The eight days with the tutor are placed over a five week period and alternate with group sessions at the university. The students meet once a week in groups of ten under supervision of one of the tutors.

During the course, each of the ten students in the group shows at least one of their own videos from their tutor practice, discuss the case and get feed-back and guidance from their teacher and fellow students. This method to learn consultation skills has been described earlier and found to be effective.

Other subjects of the group sessions are: General practice epidemiology, clinical problems from primary care, practical diagnostics, and consultation skills.

Since the start of the general practice course we have given much attention to developing the teaching program and updating the family physicians who are teaching at the university and/or in their own practice. We have discussed our experiences at meetings with teachers and regularly collected feed-back from the students. The program has been adjusted from course to course according to our experiences and to test new ideas.

From this process the teachers have systematically extracted the topics that together describe the content of a consultation. The U of C has been providing resources for the use of video equipment since the beginning of the course, and for an e-learning platform when it became available in 2007.

The exam

By the end of the course the students are evaluated in an individual exam based on the student showing one real-patient video of their own choice. The student analyzes and discusses the patient's clinical problems from a general practice perspective and discusses the relevant actions. This is supplemented by a clinical textbook question. The communication with the patient is discussed separately as part of the examination.

The need to formally grade the student's performance also stressed the need for a systematic analysis of the consultation process.

This forms the basis of the description of a student video in both the teaching sessions and at the final exam. To observe the flow in the consultation we combine the method of conversation analysis [8] (Fig. 1) with the consultation logic (Table 1).

Ethics

Patients are only included after having given written consent to participate in the video recordings and having accepted the use of these in the general practice course within one year. The patients are anonymous. The recordings are kept under lock and key, and the patient may have the recording deleted at any time by contacting the department of general practice.

Results

The analyses and discussions during and after the teaching sessions led to the following definitions and descriptions of the elements of a general practice consultation.
The consultation

When is a conversation a consultation? We define a consultation in general practice as a meeting between two people, the one seeking the help (the patient role) of the other (the doctor role) for something that the patient at the start of the consultation considers a health problem (regardless of type or possible cause), and where the two agree on these being their roles.

The roles

The consultation takes place between two equals, but it is an asymmetrical conversation. This is a consequence of the purpose of the consultation: The doctor has knowledge and skills that the patient lacks, and the patient seeks the help of the doctor because of this. This makes the relationship asymmetrical and so requires mutual respect of the participants, and that they honestly seek a shared understanding of the problem and the possible solutions. The relationship has also been described as a power imbalance. To limit this, the patient has a free choice of doctor. The doctor may have the upper hand in the consultation, but the patient may go somewhere else if she is dissatisfied.

It is part of the role of the doctor to be responsible for guiding the process, making sure that the plan is realistic, and obtaining informed consent. It is characteristic that during the consultation decisions and contracts must be made on the basis of shared understandings of problems and possible solutions.

The doctor's role is that of a consultant. This means, that the patient is not required to follow the advice of the doctor. Provided there is mutual trust, the physician-patient relationship may be preserved in spite of the patient on occasions choosing something else than the doctor has suggested. The patient has autonomy. The function as consultant also means that the doctor is not a merchant, selling as many services as possible for his own gain, or selling any service only because the patient wants it. The doctor must be able to say no like other in similar roles, for example the architect, who draws the house according to the owner's wishes, but must say no to illegal or technically poor constructions. And the architect must listen to the clients and build a house that corresponds to their wishes and not just build his own dream house.

The steps and the topics

The model consultation may be described in three parts in this sequence: The patient's part, the doctor's part and the shared part. Our model subdivides each part into steps based on each step having one distinct goal. We realized that each topic of the consultation may be placed on one of nine steps. The topics of each step have the same type of goal, and the goal must be reached before moving to the next step. Otherwise a return to the step becomes necessary and so breaks the logic of the process.

We have found the list of steps exhaustive and exclusive.

A topic can only be classified onto one step, so when two or more topics cannot be arranged in a logical order, they belong on the same step.

The goals

For each step in the consultation all topics have the same type of goal.

I. A Decision is the result of deliberations. The doctor or the patient decides how to act after considering the pros and cons, facts and emotions.

II. A Contract is a mutual agreement between two or more parties that something shall be done or abstained
from by one or both. It is characteristic that the content of the contract is adjusted in the process leading to it.

III. An Operational Shared Understanding of the patient’s problem has been reached, when the following conditions have been met:

1. The doctor has decided, that he has got sufficient information from the patient, and that he has reason to believe that the patient has heard and understood what he wanted to tell her, and

2. The patient has decided that she has got sufficient information from the doctor, and that she thinks that the doctor has heard and understood what she wanted to tell him.

So the patient does not need to know everything the doctor knows about her and her disease, and the doctor does not need to know everything about the patient and her life. The phrase “operational” denotes that the limit of the shared understanding is inherent in the purpose of the consultation and in the situation at hand. It is the responsibility of the doctor to make sure that a shared understanding has been reached.

By summarizing what he has heard the patient say, the doctor ascertains that he has understood the patient correctly, and the patient can make sure that the doctor has been sufficiently informed. This may be illustrated by comparing the consultation to the physical examination: A complete physical is not expected in every situation, just what is relevant. Any examination chosen must be performed professionally.

The logic

The steps and topics are shown in Table 1. The logic of the numbering may be checked by reading through the table, taking the last step and checking that none of the previous steps need information from the last step. Step no. 8 does not require information from step 9, step 7 likewise not from step 8 or 9, and so on. By this reasoning, some topics may end up on the same step, e.g. two topics may fulfill the criteria for step 8 (“necessary for step 9, not necessary for step 7”). This means that they may be handled in any order on step 8 without damaging the logic in the consultation process. Table 1 shows the steps arranged in the only logical way.

The chronology

The consultation process is based on the logical line of thought, so it follows that in real time the process should follow the sequence of the logic. To describe and clarify the significance of this we are using the principles from conversation analysis. When the video is shown, it is paused every 30 seconds, and the topic(s) that have been handled are checked in the corresponding boxes in the diagram. When a goal has been reached it is indicated separately. If the topics are handled in the logical order the checked boxes show a descending pattern. If a topic is handled before its logical position this result in a steep jump down and if a topic is returned to later the result is a jump upwards to the proper step.

Conversation analysis

The consultation logic and the conversation analysis are used for observational and descriptive purposes, and to create structure for reflections and feedback after the consultation.

Figure 1 is used for the conversation analysis. The left column shows the steps and goals. The video is paused every 30 seconds and the topic(s) that have been handled during the time are indicated by an “X” in the corresponding box(es). If the topics are treated in the logical order the result is a stepwise pattern. If there are topics handled before their logical position, it results in a steep jump down, and if a topic is returned to later in the process, the result is a jump upwards to the corresponding step.
The consultation logic is not an absolute recipe for behavior in the consultation, but it has been found useful to let students check the chronology of their own video against the logic. During the consultation it should not take the attention away from the contact with the patient, and not prevent the patient presenting her case in a personal way.

**Parallel activities**

The communication often continues while the general practitioner is making the physical examination, taking blood samples, preparing an injection etc. These activities affect the contact between doctor and patient, so they may be registered on the time line below the table.

**Pausing the consultation**

During the meeting, the consultation may be put on standby while doctor and/or patient talk about things outside the agenda and their roles (i.e. they go outside the consultation steps and the topics). This is registered by the conversation analysis and so can be discussed and evaluated.

DanSCORE is currently being used in a series of controlled trials of the effect of systematically adding different forms of e-learning to the usual teaching in the classroom and in clinical practice. Data from this part of the study comprising 554 last semester medical students have been collected and analyzed. When entering the course all groups of students show the same distribution of answers, so the questionnaire is usable and valid.

**Discussion and Conclusion**

Some topics may be directly irrelevant to the problem on the patient's agenda. This takes time from the consultation process but need not be a waste of time, e.g. if the doctor learns about other matters important to the patient's life or the patient needs. Or it may be plain small talk. In the long run it is important to a GP to have some background knowledge of the patient's workplace, family economy, home, family members, etc., so opportunities for this should not be missed when time allows.

The students' earlier experiences all come from training in University Hospital settings, where they meet a highly selected group of patients. The patient's reasons for encounter are specified in the referral letter.

In the family medicine course they meet unselected patients, and patient centered medicine becomes essential. We teach the students as a minimum to get a contract for the content of the encounter, explore the patients function, feelings, expectancies and ideas, and to reach a mutual agreement.

We think we have developed a useful tool for teaching and evaluating communication skills for undergraduate students. The next step is to develop a grading checklist (DanSCORE) to measure their analyzing skills before and after the course and learn how different teaching methods succeed.

**Conclusion**

We have established a classification of the topics handled in a consultation and shown that they may be arranged on steps in a logical order and chronologically handled. This forms the basis for systematically making sure that each topic has been treated adequately in the consultation and the objective of each step reached.
Feed back in clinical teaching and development of E-learning.

Table 1

Consultation Steps, Topics, Goals and Logic

BEFORE THE CONSULTATION

Patient becomes aware of a possible health problem

Patient decision to see a doctor

THE PATIENT'S PART

1. Reason for encounter

Contract about the consultation topics.

2. Patient's narrative

Effects on function and other difficulties in every-day life caused by the symptoms (facts)

What the effects on function mean to the patient (importance, values)

Ideas about diseases

Fear or other feelings

Expectations of the consultation/the doctor

Shared understanding of patient situation

THE DOCTOR'S PART

3. The professional filter

The doctor's decision: Is it a medical problem and a task for the doctor?

4. The diagnostic process

Diagnostic interview,

Physical examination,

Diagnostic tests,
Conclusion: The doctor's decision on the condition and what may be done

THE JOINT PART

5. Conclusion/diagnosis

*Shared understanding* of the condition and its consequences if left untreated

6. Options

*Shared understanding* of the possibilities for treatment or for further examinations and tests – or for watchful waiting.

7. Plan

*Shared understanding* of division of tasks and responsibilities between doctor and patient

8. Informed decision

   a. The doctor’s *decision*: Is the plan professionally/ethically correct;
   b. The patient's *decision* to follow the plan or not.

9. Safety net

*Contract* about what to expect, what to observe, and how the patient should react.

After THE Consultation

Evaluation, reflection

- Was the use of time appropriate?
- Were all steps present?
- Were the steps in a logical sequence?
- Was each step completed at once, or was it returned to several times?
- Signposting: Was the patient informed along the way how the consultation had progressed and what would happen next?
- Did the doctor's style fit the patient and the situation?
- Were the patient’s ideas and frames of reference used?
- How was the contact?
- Did the participants stay within their role during the consultation?
- Reflection: How do I feel now?
**Decision: Am I ready for the next patient?**

**Figure 1**

**Consultation Analysis**

DanSCORE Version 2014

| STEPS AND GOALS                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | >20 |
|----------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|-----|
| Reasons for encounter            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
| Contract about topics            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
| Patient narrative                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
| Shared understanding             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
| Professional filter              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
| Doctor's decision                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
| Diagnostic process               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
| Doctor's decision                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
| Conclusion/diagnosis             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
| Shared understanding             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
| Options                          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
| Shared understanding             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
| Plan                             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
| Shared understanding of the plan |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
| Informed decision                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
| Pt's decision to follow the plan or not |       |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |     |     |
Contract about what to observe, what to expect and how to react

|               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | >20 |
|---------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| Small talk    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |
| End           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |
| Minutes       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | >20 |
| Parallel activities | | | | | | | | | | | | | | | | | | | | |
| Draw a horizontal line under the relevant columns and record the type of activity | | | | | | | | | | | | | | | | | | | | |
| E.g. physical examinations, tests, injections, surgery; writing prescription, referral, notes; disturbances (computer, telephone, staff entering) | | | | | | | | | | | | | | | | | | | | |

**Figure 2**

**Consultation observation**  
(Make your notes while the video is being shown)

The basis for the decision, contract or shared understanding is: Sufficient: P  
Insufficient: ?  Not apparent: 0

**BEFORE THE CONSULTATION**

0. Patient *decides* to see doctor

**THE PATIENT'S PART**

1. **Reason for encounter**

*Contract* about the consultation topics.

2. **Patient's narrative**

Effects on function, difficulties in every-day life caused by the symptoms (facts) and what this means to the patient (values)

Ideas about diseases

Fear or other feelings

Expectations of the consultation/the doctor
THE DOCTOR’S PART

3. The professional filter

The doctor's decision: Is it a medical problem and a task for the doctor

4. The diagnostic process

Diagnostic interview,
Physical examination,
Diagnostic tests,
Handbooks, databases.

Conclusion: The doctor’s decision on the condition and what may be done

THE JOINT PART

5. Conclusion/diagnosis

Shared understanding of the condition and its consequences if left untreated

6. Options

Shared understanding of the possibilities for treatment or for further examinations and tests – or for watchful waiting.

7. Plan

Shared understanding of division of tasks and responsibilities between doctor and pt.

8. Informed decision

   a. The doctor’s decision: Is the plan professionally/ethically correct.
   b. The patient’s decision to follow the plan or not.

9. Safety net

Contract about what to expect, what to observe, and how the patient should react.

After THE Consultation
Evaluation, reflection

- Was the use of time appropriate?
- Were all steps present?
- Were the steps in a logical sequence?
- Was each step completed at once, or was it returned to several times?
- Signposting: Was the patient informed along the way how the consultation had progressed and what would happen next?
- Did the doctor’s style fit the patient and the situation?
- Were the patient’s ideas and frames of reference used?
- How was the contact?
- Did the participants stay within their role during the consultation?
- Reflection: How do I feel now?
- Decision: Am I ready for the next patient?

Figure 3
DanSCORE
Structured Consultation Observation, Recording and Evaluation

No _______ Date _________ Video ID___________

The Patient

|   |   |
|---|---|
| 1 | Do doctor and patient reach an agreement on the topics of the consultation? |
|   | □ yes |
|   | □ partly |
|   | □ no |

| 2.1 | Are the patient's ideas about symptoms, illness and self-treatment explored? |
|     | □ not relevant |
|     | □ too much |
|     | □ sufficiently |
|     | □ too little |
|     | □ not mentioned/missing |

| 2.2 | Are the effects of the symptoms on what the patient can do at work and at home explored? |
|     | □ not relevant |
|     | □ too much |
|     | □ sufficiently |
|     | □ too little |
|     | □ not mentioned/missing |

| 2.3 | Is there an exploration into how the limits of function affect the patient's self-image, norms and values? |
|     | □ not relevant |
|     | □ too much |
|     | □ sufficiently |
|     | □ too little |
|     | □ not mentioned/missing |
|     | □ the patient does not want to talk about it |

| 2.4 | Are the patient's feelings explored? |
|     | □ not relevant |
|     | □ too much |
|     | □ sufficiently |
|     | □ too little |
|     | □ not mentioned/missing |

| 2.5 | Are the patient's expectations of the consultation explored? |
|     | □ not relevant |
|     | □ too much |
|     | □ sufficiently |
|     | □ too little |
|     | □ not mentioned/missing |

| 2.6a | Does the doctor summarize the patient's history before the physical examination? |
|      | □ yes |
|      | □ partly |
|      | □ no |

| 2.6b | If no, is an operational understanding of the patient's narrative reached in another way? |
|      | □ yes |
|      | □ partly |
|      | □ no |
| The Doctor                  |
|-----------------------------|
| 3. Is it correct that this is a task for the doctor? |
| □ yes                      |
| □ maybe/cannot be determined |
| □ no, but the doctor deals with it appropriately |
| □ no, but the doctor deals with it inappropriately |
| 4.1.a The diagnostic interview is: |
| □ unnecessary              |
| □ too comprehensive        |
| □ sufficiently             |
| □ too limited              |
| 4.1.b Does the doctor summarize the diagnostic interview before the physical examination? |
| □ yes                      |
| □ sufficiently             |
| □ insufficiently           |
| □ no                       |
| 4.2.a The physical examination is: |
| □ unnecessary              |
| □ too comprehensive        |
| □ sufficient               |
| □ too limited              |
| 4.2.b The physical examination is performed: |
| □ correctly                |
| □ partly correctly, too limited |
| □ incorrect                |
| 4.3. The choice of paraclinic examination is: |
| □ unnecessary              |
| □ appropriate              |
| □ inappropriate            |
| □ missing (should have been done) |
| 4.4 Are handbooks/databases consulted? |
| □ unnecessary              |
| □ appropriately            |
| □ inappropriately          |
| □ missing (should have been done) |
| 4.5 The doctor’s diagnosis/ conclusion is |
| □ probably correct         |
| □ may be correct           |
| □ incorrect                |
| 4.6 The doctor’s explanation is |
| □ correct                  |
| □ partly correct           |
| □ incorrect                |
| 8.1 Is the doctor’s decision professionally/ medically correct based on diagnosis/conclusion? |
| □ yes                      |
| □ cannot be determined     |
| □ no                       |
| 8.2 Does the doctor ensure that the patient makes an informed decision? |
| □ yes                      |
| □ maybe                    |
| □ no                       |
| 9.1 The execution of the practical tasks (e.g. prescribing, referring, blood sampling) is: |
| □ not present/cannot be judged |
| □ correct                  |
| □ partly correct           |
| □ incorrect                |
The Shared Understanding

|   |                          |   |   |   |   |   |
|---|--------------------------|---|---|---|---|---|
| 5. | How much does the doctor do to make the patient understand the doctor’s conclusion diagnosis? | ✅ | much | a sufficient amount | too little | nothing |
| 6. | How much does the doctor do to make the patient understand the indication for further tests or examinations? |   | out of place |   |   |   |
| 7.a | How much does the doctor do to make the patient understand the plan for further examination and treatment? |   | too much | a sufficient amount | too little | nothing |
| 7.b | Is the patient asked to summarize the diagnosis, indications and plan? |   | unnecessary |   |   |   |
| 7.c | If no, is an operational understanding of diagnosis, indications and plan reached in another way? |   | yes | partly | no |
| 8.1a | The instructions to the patient about what to observe and how to react. (Safety.net) are: |   | too comprehensive | adequate | insufficient | incorrect |
| 8.1b | Is the patient asked to summarize the instructions? |   | unnecessary |   |   |   |

Comments:
## Take Home Messages

- A classification of the topics handled in a consultation has been established
- A grading checklist (DanSCORE) has been developed
Notes On Contributors

The U of C has been providing resources for the use of video equipment since the beginning of the course, and for an e-learning platform when it became available in 2007.

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Acknowledgements

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Appendices

Declarations

The author has declared that there are no conflicts of interest.

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