What did Students acquire from Their General Medicine Clerkship?
— A Qualitative Analysis of Student Descriptions —

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ABSTRACT
We qualitatively studied what medical students acquired from a general medicine clerkship. Immediately following a 5-days general medicine clerkship intended to help students acquire the skills and behaviors of a basic clinical competence, all students were required to write descriptions of their clerkships. These were collected, then analyzed independently by three individuals. The results of this analysis showed that students felt little impact from traditional types of clerkship, such as inpatient medical interviews. A much bigger impact was felt from the medical interview clerkship, which took the form of clinical clerkship. Through this, medical students participated in real patient care. In particular, they were very impressed by the process of making formative assessments of simulated patients, and they recognized the importance of caring for patients as whole person. However, little impression was made on students of the distinctive aspects of general medicine.

From these results, I think it is important that we design a clinical clerkship curriculum and also make an appropriate clerkship assessment style. In addition, it is important, to avoid future problem, that we resolve to teach an appreciation for the distinctive aspects of general medicine.

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Key words: Medical education, General medicine, Clinical clerkship, Qualitative analysis, Medical interview

1 Introduction

In recent years, medicine has been progressing rapidly and so medical knowledge has been increasing exponentially as a result of the development of specialization of medical care. Furthermore, disease constructions, healthcare delivery systems, and the expectations patients and society have of doctors have been changing greatly. It has been becoming a serious problem that many illnesses (as opposed to diseases) of patients who do not fit into a category of specialized medical care are not resolved, but rather neglected these days, although many patients have received benefits from the specialized form of medical care within modern medicine. Many hospitals have been establishing departments of general medicine for the purpose of solving these problems. Doctors of general medicine try to care for the patients as a whole person.

Under these circumstances medical education is obliged to change itself. Medical student clerkship has been changing from a traditional type of observation to actual participation in medical practice. This is called ‘clinical clerkship.’ This is different from a traditional type of “polycli” or “BSL (bed side learning)”

Traditionally, Japanese medical students have learned clinical practice at the bed sides of inpatients, which has been called BSL. With BSL, medical students almost only see doctors treat patients, and they do almost nothing for patients themselves. Although they can acquire medical knowledge - especially recall ability - in BSL, they cannot acquire clinical skills and attitudes that should be acquired to become a good clinical practitioner. Nowadays, they say that many medical students have a great deal of medical knowledge, but not the skills and attitudes for basic clinical competence. These problems are said to be a 21st century theme for medical education. To remedy the present state of Japanese medical education, we set as a goal of the general medicine clerkship the acquisition of basic clinical competence, especially in the areas of the medical interview and the physical examination.

In this study, we have conducted a qualitative analysis of what students think about the general medicine clerkship designed to increase students’ understanding of how to care for patients as whole people. And so, we have formed a hypothesis about medical education for general medicine.
2 Subjects

Fifth year students participate in a 5 or 10 half-days clerkship at Sapporo Medical University. In 2001, 96 fifth year students participated in a 5-day general medicine clerkship. We studied all 96 students.

3 Methods

3.1 Contents of the general medicine clerkship

Table 1 shows the content of our department’s general medicine clerkship. The aims of the clerkship were to convey the basic clinical skills of the medical interview and physical examination, as well as the importance of caring for the patient as a whole person, rather than simply managing them from an organ specific view.

Table 1. Clerkship within the general medicine department (average length of time)

<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Medical interview of inpatients (1.5hr)</td>
</tr>
<tr>
<td>Tuesday</td>
<td>Physical examination (2hr)</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Medical interview of outpatients (1.5hr), Case presentation (1hr), Grand round, Journal club (1.5hr)</td>
</tr>
<tr>
<td>Thursday</td>
<td>Medical interview of simulated patients (2.5hr)</td>
</tr>
<tr>
<td>Friday</td>
<td>Report presentation (1hr), mini-OSCE (1hr), Lecture on general medicine (1.5hr)</td>
</tr>
</tbody>
</table>

3.2 Object of analysis

Immediately after the clerkship all 96 students wrote a free-style description of the clerkship. The average length of the descriptions was approximately 600 letters in Japanese. We analyzed these 96 response papers.

3.3 Analysts

Three faculty members from our department analyzed the response papers independently. These three members were not representatives of this research.

3.4 Methods of analysis

We analyzed the descriptions qualitatively⁶,⁷. The sentences of each response paper were divided into what we thought were meaningful phrases, on which we carried out a content analysis. Firstly, we extracted from the descriptions eleven items pertaining to the clerkship content. These were: the inpatient medical interview, physical examination, new outpatient medical interview, case presentation, grand round, journal club, simulated patient medical interview, report writing and presentation, mini-OSCE (objective structured clinical examination), a lecture regarding general medicine, and the medical interview in general. A mini-OSCE here means a clinical examination of vital signs. Medical interview in general here means medical interviews not specific to inpatients or outpatients or SPs. Secondly, other items not included within those eleven were extracted, and concept names appropriate to the content were assigned to each⁸.

As the students wrote free-style descriptions, we expected that each analyst would specify different contents from each response paper. To maintain the validity of the extracted items, we analyzed each description paper independently and we adopted items that two out of three analysts had extracted.

Each faculty analyst weighted the extracted items as 1, 2 or 3 (1; slightly important, 2; important, 3; very important) according to how strongly students seemed to feel about those items. For example, if a student wrote a long description and the analyst felt that it was enthusiastic, that content gained a weight 3. This method of analysis has some weakness in that it depends on a subjective judgment of the analyst. In order to minimize subjectivity, we used the consensus method where we adopted a content that two of three analysts agreed on. We calculated the weighted numbers of the extracted items and considered them to be ‘impacts’ that the students received from the clerkship. For example, if all three analysts extracted one item from one description paper and all three analysts weighted it as 3, this item was assigned a 9-point weight (3 × 3 = 9). And if all 96 description papers contained this item, and all received 9 points, a 864-point (96 × 9) total weight was assigned. Therefore, the maximum possible weight of one item is 864.

Besides analyzing the descriptions, each analyst anticipated the weight of each of the 11 extracted items in advance. We then calculated the average of these three sets of predictions, and compared these with the points we extracted. The analysts also anticipated contents other than the original 11 items and devised conceptual names for each. We thought that the difference between the anticipated and the actual weights would show the dissociation between what the faculty wants the students to learn and the impressions that the students received.

4 Result

We succeeded in collecting all 96 response.

4.1 Numbers of students who describe their experiences of the 11 items (Fig. 1)
What did students acquire from a general medicine clerkship?

Fig. 1 Numbers of students describing their experiences of 11 items.

Fig. 2 Weights of students' experiences.
About half of the students described the medical interview in general and the simulated patient medical interview. About a quarter of the students described the physical examination and new outpatient medical interview. Less than 10% of the students described the inpatient medical interview, lecture about general medicine, case presentation, report writing and presentation, or mini-OSCE. No students described the grand round and journal club. There was a large difference between the expectations of the faculty analysts and the student responses regarding the inpatient medical interview and lecture about general medicine. While the faculty expected a lot of descriptions of those, students did not respond significantly to either.

4.2 Weights of student experiences (Fig. 2)

The weights of the medical interview overall and simulated patient medical interview were considerable. Although the weight of the new outpatient medical interview and physical examination were not so great, those were clearly more significant than other items. There was a large difference between the faculty analysts' anticipated weight and the extracted weight regarding the inpatient medical interview and lecture about general medicine.

Examples of descriptions

“I conducted a medical interview with a real patient for the first time. I realized that patients had many psychosocial problems.” (Student-50)

“The medical interview with a simulated patient was very useful. I learned how to create a good doctor-patient relationship from that experience.” (Student-28)

“I received useful feedback from simulated patients.” (Student-94)

4.3 Extracted items other than the 11 original items (Table 2)

Caring for a patient as a whole person, understanding the department of general medicine and the function of a general medicine doctor, and enthusiasm for student education were relatively heavily weighted items. The faculty expected to extract items about the differences between general and specialty medicine, and career choice; but students hardly responded to those factors.

Examples of descriptions

“I understood the concept of patient-centered medicine from the attitudes of general medicine doctors toward patients.” (Student-08)

“I understood the framework of general medicine. A group of specialists cannot form a department of general medicine. General medicine is not so easy to practice.” (Student-22)

“I tried to learn as much as I could, because teachers tried very eagerly to teach us.” (Student-87)

### Table 2 Extracted items with the exception of 11 original items

<table>
<thead>
<tr>
<th>(Extracted items of descriptions)</th>
<th>(number of students/points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caring for a patient as a whole person</td>
<td>(13/118)</td>
</tr>
<tr>
<td>Understanding of general medicine</td>
<td>(12/68)</td>
</tr>
<tr>
<td>Enthusiasm for student education</td>
<td>(12/69)</td>
</tr>
<tr>
<td>Shortness of clerkship period</td>
<td>(10/41)</td>
</tr>
<tr>
<td>Importance of general medicine</td>
<td>(7/42)</td>
</tr>
<tr>
<td>Disappointment with a small number of patient</td>
<td>(6/24)</td>
</tr>
<tr>
<td>Sympathy with the strictness of the clerkship</td>
<td>(5/33)</td>
</tr>
</tbody>
</table>

(Expectations of faculty)

| Difference from specialty medicine | |
| Career choice | |
| Enthusiasm for medical education | |
| Understanding of general medicine | |
| Understanding of patient-centered medicine | |

5 Discussion

Recently the clinical clerkship has become a major part of the medical student clerkship. There have been many reports of studies of the educational effects of clinical clerkship. Generally, medical students can acquire basic medical knowledge, the ability to take patients' information in a medical interview, basic clinical examination skills and basic clinical skills, as they spend more time in a clinical clerkship. This is the result of the participation of medical students in patient care during clerkship. Furthermore, medical students can develop competence in the important area of interfacing with students in a humanistic way in clinical clerkship. Also, there is a report of medical students think about their career choice after experiencing a clinical clerkship. However, these reports are about clinical clerkship overall, not general medicine clerkship. There are a small number of reports about the effectiveness of a general medicine clerkship that intends medical students to acquire basic clinical competence and skills of primary care. For example, Yamamoto qualitatively studied and reported that medical students experienced not only biomedical aspects, but...
also non-biomedical aspects in a general medicine clerkship\textsuperscript{10}.

From the results of 4-1, we found that few students supplied their impressions of the aspects of a so-called ‘traditional’ clerkship, such as inpatient medical interview, lecture on general medicine, report writing and presentation, grand round and journal club. On the other hand, many students gave their impressions of the simulated patient medical interview, new outpatient medical interview and medical interview in general. The results in 4-2 showed that these items about medical interviews were heavily weighted. These items are a part of a clinical clerkship. In a clinical clerkship, medical students actually participate in patient management as members of a medical team. Judging from the contents of their descriptions, we think that the medical students found some fulfillment from the clinical clerkship. They felt some nervousness during the medical interviews, but they appreciated them nonetheless. They were apparently pleased to be doing medical interviews by themselves, and satisfied with applying their knowledge to actual medical care. Also, they apparently took pleasure from having a sense of responsibility for patient care. But, there are several limitations in this study. One of them is that the students may receive stronger impression from the activities of longer duration and the activities that are not done in other clerkships.

From the descriptions of the medical interviews, especially the simulated patient medical interview, students formed strong impressions from receiving formative assessment of feedback form simulated patients regarding the medical interviews they had conducted. We think this is because of students having little chance to receive formative assessment of their clinical skills. It is said that a formative assessment like this is effective for a medical education\textsuperscript{14,15}. It will, we think, be useful for achieving the aims of clerkship.

Items that the faculty expected to find in students’ descriptions are contained in 4-3. There may be some possibility of there being a “hidden curriculum” within our general medicine clerkship. The faculty expected that students would have gained insights into what general medicine is all about, and, from the results of 4-3, we think that the students understood this to some extent. In addition, an enthusiasm for education was extracted from the students’ descriptions, as was expected.

On the other hand, an item about the new challenges for medical care through general medicine was not extracted from student responses. There is the possibility that they did not understand that there were conceptual differences between general medicine and other specialties, which was an item that the faculty expected to find. Also, no students mentioned general medicine as a career choice after the clerkship. These facts may indicate that students successfully acquired basic clinical skills, like medical interviews etc., but that they had little chance for understanding the conceptual framework of general medicine. There are many discussions about the role and scope of general medicine itself at hospitals, and many departments of general medicine may have trouble working well together due to different perceptions of general medicine\textsuperscript{16}. Under these circumstances, we may have difficulties of teaching students about general medicine. These are, we think, problems we should resolve for the future.

6 Conclusion

The medical interviews had a strong impact on the students during general medicine clerkship. This is thought to be due to running the clerkship as a clinical-style clerkship, in which medical students actually participated in the care of a patient, and received an appropriate assessment, such as feedback from a simulated patient. Our clerkship made an impression on medical students interns of their acquiring basic clinical skills such as medical interviews, but could not give them much chance for understanding of the conceptual framework of general medicine.

We think it is important that we make a clinical clerkship curriculum and also make an appropriate clerkship assessment style. Also, we general medicine doctors should create environments in departments of general medicine within hospitals which facilitate medical education in general medicine, and should teach students the distinctive aspects of general medicine.

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総合診療科実習で学生は何を感じ取ったのか
—感想文の質的検討—

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総合診療科実習で学生が何を感じ取ったのかを質的に検討した。基本的臨床能力のうち技能、態度を身につけることを目的の中心とした5日間の実習を終えた後に、実習全体についての感想文を実習参加学生全員に自由記載してもらい回収した。回収した感想文を3人の分析者が独立して質的に分析した。分析の結果、従来型の実習である入院患者実習にはあまり印象をもっていなかった。一方、診療参加型の実習形態をとった医療面接実習には大きな印象を受けていた。とりわけ模擬患者医療面接実習において形成的評価を受けたことは大きなインパクトを与えていた。また、人間を総合的にみることの理解は得られていたが、総合診療の独自性についての印象はみられなかった。以上のことから今後、診療参加型の実習形態と適切な評価法の導入を進めることが重要と考えられた。一方で、総合診療科の独自性についての教育については今後の大きな課題であると思われた。