

Perceptions of Medical Students and Facilitators of an Early Clinical Exposure Instructional Program

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Background: Early introduction to clinical medicine program was use as medical curriculum, Suranaree University since 2007. Today, medical students are learning introduction to patient contact, communication skills and clinical examination in the pre-clinical years with the purpose of gaining early clinical experience.

Objective: Investigation for pre-clinical students and clinical facilitators' perception through early introduction to clinical medicine.

Material and Method: Third-year medical students were enrolled in the introduction to clinical medicine course for 2 weeks. Questionnaires for student and facilitator versions were distributed to 60 students and 21 facilitators. In the analysis, both t-test analysis and bivariate analysis for mean difference were used, statistical significant $p < 0.05$.

Results: Sixty students (participation rate 100%) and 16 facilitators (participation rate 76%) completed the questionnaire. Differences in perception between medical students and facilitators were found in domains of professionalism, facilitator's perception were greater than medical students in medical profession were (4.5 vs. 3.87, $p = 0.03$), domain that medical student's perception were greater than facilitator's in encouragement was (3.95 vs. 3.25, $p < 0.01$) and pressure in learning environment (3.92 vs. 3.12, $p < 0.01$). No learning gaps of facilitators and medical students in the other domains of cognitive, interpersonal skills, ethics, learning, teacher preparation and social environment and overall stratification were identified.

Conclusion: The students experienced the course as providing them with a valuable introduction to the physician's professional role in clinical practice. In medical students' perception, they often experienced encouragement and the learning environment more so than facilitators did. Overall stratification was good in perception of facilitators and medical students.

Keywords: Early clinical exposure, Instructional program

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A new medical education concept was introduced for medical students to be exposed to early clinical examination communication skills and patient contact before clinical clerkship⁽¹⁻³⁾. Pre-clinical medical

students would learn with medical staff as facilitators in early introduction to clinical courses⁽⁴⁻⁹⁾. At present, medical curriculum in Institute of Medicine, Suranaree University of Technology, Thailand includes such introduction to clinical medicine during the pre-clinical years of the new curriculum. Introduction to clinical medicine implemented a mandatory clinical simulation curriculum for third-year medical students to improve clinical skills. A mannequin or simulated patient provided a unique and safe environment for medical students to practice clinical skills, facilitator and faculty

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to devote undivided attention to observe and provide feedback. From both medical students and facilitators perceptions, there is need to evaluate these early introductions to clinical course.

In general, the major aims for facilitator's task are to activate students in order to learn; to be a facilitator of medical students learning and provide learning opportunities and motivation for medical students^(10,11). This is clear that early introduction to clinical courses with case scenarios, standardized patients and mannequins helped them to gain clinical experience. The facilitator has a central role in involving and encouraging medical students to learn from encounters with doctors, patients and personnel in healthcare. Previous students showed that from early medical education, they were more curious and motivated to learn from clinical practice⁽¹²⁾. Besides focusing on student learning conditions, facilitators also focused on working conditions and different perceptions (The learner-centered perception in higher education between learning content, teaching and learning activities, and assessment⁽¹³⁾). Medical students' competencies are associated with teaching methods and strategies used.

In the present study, learning gaps created through teachers' interactions with pre-clinical medical students existed in introduction to clinical medicine. Medical students and facilitators' perceptions represented two aspects of a course that contributed to the learning gap⁽³⁾. According to these studies, specialist and sub board backgrounds of facilitators were engaged in early clinical teaching in pre-clinical medical students; the most common facilitator task was to teach students individually^(3,14,15). The present learning gap both students' and facilitators' in a new early introduction to clinical course. Early introduction to clinical courses was thoroughly structured to build medical student competence in a deliberate progression. The introduction to clinical courses prepared medical students for introduction to patient-centered skills and clinical examination skills. The facilitators were the sole source of clinical skills training during these pre-clinical years. At introduction to medicine courses, each medical student received introduction to medicine guidebook and each facilitator received an expanded teacher version. In the guide, the course's learning goals were presented and aligned with the tasks of each laboratory. Aims of this study were to investigate both medical students' and clinical facilitators' perception of early introduction to clinical courses the Suranaree University of Technology.

Material and Method

Students

There were 60 students attending the second trimester of the introduction to medicine course: 23 men and 37 women.

Facilitators

Sixteen of twenty-one facilitators participated in the introduction to medicine course. All of them were specialists in other disciplines: internal medicine (three), family medicine (three) surgery (three), orthopedic (three), pediatric (two), medical rehabilitation (one), obstetrics-gynecology (one), psychiatrist (one), anesthesia (one), pathology (two). There were six male and ten female. All facilitators gave an introduction about the learning objectives before starting the introduction to medicine.

Questionnaire

Early introduction to clinical course questionnaires were modifications of early professional contact and course experience. This questionnaire consisted of 28 statements on education, goals, workload, clinical skills and general satisfaction. Discussing each item thoroughly with facilitators and researchers at the university, ensured face validity of the study, which was reviewed by medical education staff. Items were classified into new domain categories. The first part contains four domains of cognitive, interpersonal skill, professionalism and ethic. The second part contains four domain of medical education management learning introduction to medicine, teacher preparation, learning and social environment^(16,17). After introduction to the clinical medicine course or upon completion of academic studies in Institute of Medicine, Suranaree University of Technology, each medical student and facilitator completed an anonymous questionnaire in the Thai language with responses scored on Likert scale using a five-degree. In December 2014, medical students and facilitators were given an anonymous questionnaire at the end of the course. They were informed that the survey was part of a research evaluation of the course and that participation was anonymous and voluntary. Time to complete the survey was approximately 15-30 minutes.

Statistical methods

Analysis and comparison perspective of medical students and facilitators' early clinical exposure course were performed. Different aspects between students and facilitators were studied. Mean and median

Table 1. Perception of medical student and facilitator in medical education

Domain	Aspect	Medical students		Facilitators		Learning gap of medical student-facilitator	
		Mean	Median	Mean	Median	Mean different	p-value
Cognitive	Stimulating and valuable of knowledge	3.95	4.00	4.50	5.00	-0.55	0.01
	Expectations	3.22	3.00	3.07	3.00	0.15	0.64
	Study guide	4.17	4.00	4.31	4.00	-0.15	0.45
	Interesting and valuable course	4.00	4.00	4.25	4.00	-0.25	0.27
Interpersonal skill	Group talks	3.68	4.00	3.63	4.00	0.06	0.81
	Students' influence	3.55	3.50	3.60	3.00	-0.05	0.86
	Clinical skill	3.95	4.00	3.81	4.00	0.14	0.48
	laboratory qualification	3.92	4.00	3.56	3.00	0.35	0.10
Professionalism	Understand training experience	3.93	4.00	4.00	4.00	-0.07	0.74
	Team work	4.00	4.00	4.06	4.00	-0.06	0.75
	Course objective	3.88	4.00	3.88	4.00	0.01	0.97
	Students' confidence	3.62	4.00	3.69	4.00	-0.07	0.76
Ethic	Medical profession	3.87	4.00	4.38	4.50	-0.51	0.03*
	Study motivation	4.17	4.00	4.00	4.00	0.17	0.46
	Inspiration	4.07	4.00	4.06	4.00	0.01	0.98
	Encouragement	3.95	4.00	3.25	3.00	0.70	<0.01*
	Patients feelings	3.83	4.00	4.25	4.00	-0.42	0.08

* Statistical significant $p < 0.05$

were calculated for all items.

Results

Sixty medical students (100%) and 16 facilitators (76%) completed the questionnaire. Analysis of both students' and facilitators' perception in early introduction to clinical course are shown in Table 1. An analysis of the experiences of students and facilitators indicates that the facilitator's perception to medical student experience was greater professionalism ($p = 0.03$), but less than medical students in encouragement ($p < 0.01$). The medical students had practice in ethical issues perceiving and understanding patient feelings ($p = 0.08$) and studied the guidebook, also useful ($p = 0.45$), but not statistically significant.

An analysis of the experiences of students and facilitators (Table 2) indicated that facilitator's perception bore less pressure than on the medical students ($p < 0.01$).

An analysis of the experiences of students and administrators (Table 3) indicated that facilitator's perception to medical student experienced a greater professionalism but experienced a lower learning environment.

Discussion

Among students, participation rate was 100% and among facilitators 71%. Early clinical exposure questionnaire demonstrated that the aims of the early clinical course had been met from the medical students' point of view and introduced them to clinical practices and improved a physician's professionalism. When starting the introduction to medicine course, course leaders were familiar with learning goals. The introduction to clinical medicine also increased pre-clinical medical student motivation for clinical years similar to previous studies integrated curriculum of undergraduate medical studies that has had positive effects⁽²⁰⁻²³⁾. Perception of facilitator to medical student experienced greater professionalism but less pressure in the learning environment than medical students did. The study guide held interest for both of facilitators and medical students, and was revised after discussions with medical students, facilitators and course leaders. Sharing knowledge, reflections and discussion in small group sessions were helpful in learning but no statistical associations were found between students and facilitators' results in these two categories. Students perceived that their learning goals were met, whereas facilitators found the course interesting and fruitful. Our results confirm the value

Table 2. Perception of medical student and facilitator in medical education management

Group	Aspect	Medical students		Facilitators		Learning gap of medical student-facilitator	
		Mean	Median	Mean	Median	Mean different	p-value
Learning introduction to medicine	Workload Demands	3.52	3.50	3.19	3.50	0.33	0.28
	Block structure	3.92	4.00	4.07	4.00	-0.15	0.47
	Students contribution	3.70	4.00	3.81	4.00	-0.11	0.65
Teachers preparation	Introduction to medicine tasks	4.03	4.00	3.88	4.00	0.16	0.45
	Feedback	4.15	4.00	4.00	4.00	0.15	0.54
	Two way communication	3.92	4.00	3.81	4.00	0.10	0.62
Learning environment	satisfactions	3.93	4.00	3.88	4.00	0.06	0.81
	Social Environment	3.92	4.00	3.13	3.00	0.79	<0.01*
	Course director	3.73	4.00	4.07	3.13	-0.33	0.12

* Statistical significant $p < 0.05$

Table 3. Perception of student and facilitator in early introduction to clinical medicine

Group	Aspect	Medical students	Facilitators	Learning gap of medical student-facilitator	
		Mean	Mean	Mean different	<i>p</i> -value
Domain of instructional program	Cognitive	3.83	4.05	-0.21	0.16
	Interpersonal skill	3.85	3.93	0.05	0.75
	Professionalism	3.93	3.07	0.86	<0.01*
	Ethic	3.83	4.25	-0.41	0.08
	Overall	3.86	3.79	0.07	0.65
Administration	Perspective of learning introduction to medicine	3.71	3.67	0.04	0.79
	Perspective for teachers preparation	3.96	3.93	0.04	0.84
	Learning environment	3.92	3.13	3.96	<0.01*
	Social environment	3.73	4.07	-0.33	0.12
	Overall	3.83	3.63	0.20	0.19
Overall stratification		4.03	4.19	-0.15	0.47

* Statistical significant $p < 0.05$

of early introduction to clinical medicine as a means of integrating clinical experience in the pre-clinical phase of a traditional medical curriculum.

Limitation of the study

There are several limitations to this study. First is that it relies on medical student self-assessment, and thus may not reflect true clinical strengths and weaknesses. Whether the increase in self-confidence that medical students reported actually translated into improved performance in clinical medicine was beyond the scope of this study. Another limitation of this study is that it included only a single institution and, therefore, the results may not be of general relevance.

Conclusion

Medical students perceive both an educational and a clinical benefit from this early introduction to clinical medicine, which is supported by their evaluations of the course. Both students and facilitators appreciated this new, early clinical exposure at the Institute of Medicine at Suranaree University of Technology. According to students' evaluations, they have gained a valuable introduction to the physician's professional role in clinical practice. Students' motivation was also strengthened. We found differences between clinical facilitators and students regarding some aspects of this introduction to the

medicine course in professionalism and learning environment, perhaps because of different backgrounds and concepts of professionalism at pre-clinical levels.

What is already known on this topic?

The introduction to clinical course also increased pre-clinical medical student motivation for clinical years, similar to previous studies.

What this study adds?

The present study investigated perceptions of facilitators and medical students in four domains of medical education: cognitive, interpersonal skills, professionalism and ethics. Education management both learning and social environment were evaluated. Perceptual differences were noted in professionalism and learning environment in both groups.

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Potential conflicts of interest

None.

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มุมมองของนักศึกษาแพทย์และอาจารย์ในหลักสูตรการสัมผัสประสบการณ์ทางคลินิกในระยะเริ่มแรก

พรทิพย์ นิมขุนทด, สรญา แก้วพิบูลย์, นพร อึ้งอารมณ, การะเกตุ รัตนศิริพันธ์, บัทยา ทองดี

ภูมิหลัง: ในหลักสูตรแพทย์ มหาวิทยาลัยเทคโนโลยีสุรนารีมีการฝึกหัดสัมผัสประสบการณ์ทางคลินิกในระยะเริ่มแรก การตรวจผู้ป่วย ทักษะการสื่อสาร ทักษะการตรวจร่างกายทางคลินิก ในนักศึกษาแพทย์ชั้นปีที่ 3 เพื่อเพิ่มประสบการณ์การเรียนรู้ในชั้นคลินิก

วัตถุประสงค์: เพื่อประเมินและวิเคราะห์ช่องว่างของมุมมองการเรียนรู้ของนักศึกษาแพทย์และอาจารย์ผู้สอนในการเรียนแบบมีการสัมผัสประสบการณ์ทางคลินิกในระยะเริ่มแรก

วัสดุและวิธีการ: ผู้เข้าร่วมศึกษาเป็นนักศึกษาแพทย์ปี 3 ที่เรียนวิชาบทนำทางคลินิก 2 สัปดาห์ แจกแบบสอบถามให้นักศึกษาแพทย์ชั้นปีที่ 3 จำนวน 60 คน และอาจารย์ผู้สอน 21 คน สถิติที่ใช้ t-test analysis และ Bivariate analysis สำหรับการวิเคราะห์ความแตกต่างค่าเฉลี่ย โดยมีนัยสำคัญทางสถิติ $p < 0.05$

ผลการศึกษา: นักศึกษาแพทย์ 60 คน (100%) และอาจารย์ 16 คน (76%) ตอบแบบสอบถาม พบว่ามุมมองที่แตกต่างกันของนักศึกษาและอาจารย์ ในมุมมองของความเป็นมืออาชีพ โดยมุมมองของอาจารย์มองว่านักศึกษามากกว่านักศึกษาแพทย์มองตนเอง ในด้านความเป็นมืออาชีพ (4.5 vs. 3.87 $p = 0.03$) และมุมมองนักศึกษาแพทย์พบว่ามีมากกว่าในมุมมองของอาจารย์ในการให้กำลังใจในการเรียน (3.95 vs. 3.25, $p < 0.01$) และบรรยากาศการเรียนรู้ที่กดดันมากกว่า (3.92 vs. 3.12, $p < 0.01$) พบว่าไม่มีความแตกต่างของมุมมองการเรียนรู้ของนักศึกษาแพทย์และอาจารย์ในเรื่องของความรู้ ทักษะทางการแพทย์ จริยธรรม การเรียนรู้ ความเหมาะสมในการเตรียมตัวสอนของอาจารย์ สังคมรอบข้าง และความพึงพอใจรวมไม่แตกต่างกัน

สรุป: ประสบการณ์การเรียนรู้ของนักศึกษาที่ได้จากหลักสูตร ได้ให้การเตรียมตัวเป็นมืออาชีพทางการปฏิบัติงานคลินิก มุมมองของนักศึกษาแพทย์ อยู่ในบรรยากาศการเรียนรู้ที่กดดันมากกว่าแต่ยังมีการให้กำลังใจในการเรียน เมื่อเทียบกับมุมมองของอาจารย์ และมุมมองคือนักศึกษาแพทย์พบว่ามีความเป็นมืออาชีพ โดยรวมผลของความพึงพอใจกับการเรียนหลักสูตรดีมาก ทั้งอาจารย์และนักศึกษาแพทย์
