

## STUDENTS' EXPERIENCES OF INTERACTION WITH THE SUPERVISORS DURING THE TRANSITION TO CLINICAL CLERKSHIPS

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### ABSTRACT

**Background:** Transition to clinical clerkships involves significant changes for students in terms of learning environment and approach to learning. As clinical supervisors, doctors are one of the essential learning resources who also provide access for participation in a clinical environment. This study explored undergraduate medical students' experiences during the transition to clinical clerkships to understand how these experiences affect their learning. This paper aims to report factors affecting students' interaction with supervisors during the transition period.

**Method:** This was a qualitative phenomenological study. Participants were selected purposely to represent gender and group of student rotations. Eight 4<sup>th</sup> year medical students (five female, three male) submitted audio diaries during their first 12 weeks of clinical clerkships. Forty-six of the 73 audio diaries collected in the study contained interactions with supervisors, and these interactions were captured in 76 excerpts.

**Results:** Six themes emerged regarding factors affecting the interaction: (1) characters of the supervisors including the willingness to teach, showing concerns, asking questions to test comprehension, inviting explicitly; (2) supervisors' workload; (3) students' clinical knowledge and skills; (4) students' initiatives: actively participating, asking questions; (5) curriculum and organization: the chance to do mutual interaction (i.e., mini-CEX), clarity of students' roles and educational goals; (6) senior peers.

**Conclusions:** Interactions between students and supervisors during the transition to clinical clerkships were influenced by factors internal to both parts and external factors like curriculum and organization, workload, and the presence of senior peers. However, during this phase, where students had not developed a situational understanding of the new environment, supervisors' characters strongly influenced the interactions through the provision of affective support.

**Keywords:** clinical clerkships, medical students, transition, students-doctors interaction

### PRACTICE POINTS

- Uncertainties of roles and what is expected from students during the transition period can prevent students from being proactive
- Interaction between students and supervising doctors is strongly affected by the supervisors
- Affective support from supervisors can enhance interaction between students and the supervisors during the transition before students develop their confidence to take initiatives

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## INTRODUCTION

The clinical learning environment has different features from the academic learning environment.<sup>1-3</sup> Transition to clinical clerkships involves significant changes for students in terms of learning environment and approach to learning. In a clinical learning environment, students learn from participating in clinical work or work-based learning.<sup>1,3,4</sup> Doctors, as clinical supervisors, are one of the essential learning resources who also provide access for participation in a clinical environment.<sup>5</sup> Therefore, student interaction with doctors will affect their participation and learning. The study reported here was part of a qualitative study aimed to explore the experiences of undergraduate medical students during the transition to clinical clerkships, to understand how these experiences affect their learning. The previous publication of this study reported senior peers' role in students' transition to clinical clerkships.<sup>6</sup> The present report focuses on the factors affecting students' interaction with clinical supervisors during the transition period.

## METHODS

As previously detailed,<sup>6</sup> this study took a phenomenological approach to capture and understand participants' experiences of certain activities or phenomena from their point of view.<sup>7</sup> The phenomenon studied was student transition to clinical clerkships, which in this study defined as the first 12 weeks of the clinical clerkships.

This study was conducted in the Faculty of Medicine Universitas Mataram (FM UNRAM), Indonesia. Undergraduate medical education in FM UNRAM consists of three and a half years of pre-clinical stage and two years of clinical stage. The undergraduate medical education program's clinical clerkships is conducted mainly at the provincial level hospital with no residents, and students rotate through different clinical departments. Each rotation lasts from three to twelve weeks. In certain clinical departments, students spent 1-2 weeks at regency level hospitals. Supervisors in the clinical clerkships were attending doctors from the hospitals, and some of them also work as the teaching staff of FM UNRAM.

The researchers are academic staff and members of the Medical Education Unit at the institution. They had been engaged with participants of this study during their pre-clinical stage. However, none of the researchers were involved in clinical teaching or patient care at the teaching hospital or any affiliated teaching hospitals.

Participants in this study were eight 4th year undergraduate medical students (five female, three male students) who started their clinical clerkships in March 2017. Participants were selected purposively to represent the proportion of students' gender, group of rotation, academic achievement, and who were also articulate in recounting their experiences. Participation in this study was voluntary, and each participant was given a pseudonym to protect their identity.

Data were collected using audio diaries in which participants recounted and recorded their experiences during the transition period. Using audio diaries in collecting participants' experiences during transition gives several advantages: it can be done immediately after the experience and can capture the dynamic emotional responses accompanying the experience.<sup>8</sup> Furthermore, longitudinal recording of audio could provide insights on participants' progression regarding the phenomenon under study. At the beginning of each recording, participants were required to mention their pseudonym, date of recording, clinical rotation they were in, and the day/week they were in the clinical rotation. To encourage participants to talk about their experiences, researchers asked them about their feeling regarding the experience they had that day ("how do you feel today?") before continuing to describe the experience and their reflection on that experience. Participants were allowed to talk about any experiences they had in the clinical rotation. However, to protect the confidentiality of individuals involved in their experiences, participants were suggested to use pseudo identities. The audio diaries were sent via email and or via end-to-end encrypted chat application to the researchers (DPS and YPS), which were then saved in password-protect cloud storage. At the end of data collection, the participants received financial compensation for internet data usage for sending the

audio diaries and souvenirs as tokens of appreciation for their participation in this study. Ethical approval for this study was obtained from the Research Ethics Committee of FM UNRAM (Review decision No 78/UN18.8/ETIK/2017)

The audio diaries were transcribed verbatim and analyzed thematically. Thematic analysis is defined by Braun & Clarke as “a method for identifying, analyzing, organizing, describing and reporting themes found within a data set”.<sup>9(p.2)</sup> In analyzing the data, the researchers started by reading all the transcripts iteratively to become familiar with the data and to comprehend the bigger picture of students’ experiences. Initial impressions about the depth, credibility, usefulness of the information in the transcripts, as well as potential codes emerged from the data were noted down and discussed among the researchers to be used as the basis to develop the initial coding list. The researchers then independently coded meaningful excerpts from the same set of initial transcripts using codes from this list. Afterward, the researchers gathered to discuss the initial results of the analysis and to resolve disagreements. With the agreed list of new codes, the researchers continued to code the remaining transcripts with Dedoose® software to analyze qualitative and mixed methods research. With all transcripts being coded, the researchers discussed the relationships between codes, which then lead to the categorization of the codes into themes. Since the codes and themes primarily emerged from the data, this process can be considered inductive thematic analysis.<sup>9</sup>

## RESULTS AND DISCUSSION

In total, 73 audio diaries collected in the study, among which 46 contained interactions with supervisors, and these interactions were captured in 76 excerpts. Most excerpts (41) came from students’ experiences in dermatology and venereology department, while others were from experiences in anesthesiology, psychiatry, radiology, neurology, internal medicine, pediatric, and ophthalmology department. Clerkship rotations in internal medicine and pediatric department last for 12 weeks, while in other departments, the rotation lasts from three to five weeks.

Interactions between students and doctors mainly occurred during clinical work (56 excerpts) and, to a lesser amount, formal teaching sessions, i.e., case presentation and orientation session. The interactions comprised of questioning and answering between students and doctors (21 excerpts), observing supervisors during clinical work (19 excerpts), and attending to supervisors’ teachings (19 excerpts) both planned sessions or incidental ones during clinical works and performing work related to patient care in rehearsal or real context (17 excerpts). Six themes emerged as factors affecting student interaction with supervisors: 1) characters of the supervisors (2) supervisors’ workload; (3) students’ clinical knowledge and skills; (4) students’ initiatives; (5) curriculum and organization; (6) senior peers. Excerpts from the participants’ audio diaries related to these themes are provided in table 1.

**Table 1. Themes and excerpts**

Theme and definition	Excerpts
<b>Characters of the supervisors</b> Attitudes and behaviors of the supervisors toward teaching and students as well as their style of teaching	“So the doctor was very supportive, really taught us many things [...] and we were often challenged, like, “explain about the disease or the treatment”, while also being explained the correct answer afterward.” (A female student in the Department of Neurology)
	“We were welcomed to observe senior students first, ask questions, and be proactive students.” (A male student in the Department of Dermatology & Venereology)

	<p><i>“So he just laughed and said, “come on, try again!” It motivates me, compared to a response like, “how come you don’t know that?” which made me down and demotivated and start to question what I’ve learned.”</i></p> <p>(A male student in the Department of Dermatology &amp; Venereology)</p>
<p><b>Supervisors’ workload</b> Supervisors’ patient-related or non-patient related work that competes with clinical teaching</p>	<p><i>“So we did not communicate at all. We just watched her working those images and write down the result. Maybe she was overwhelmed [...], so we thought it is not a good time to ask questions. [we need to] read the situation.”</i></p> <p>(A male student in the Department of Radiology)</p> <p><i>“The doctor was nice. Well, we did not talk with him/her (...) We wanted to introduce ourselves as the new clerk, but he/she seemed very busy with the work the whole day. Until afternoon there were many works, so we are exhausted, and the doctor was also tired...”</i></p> <p>(A female student in the Department of Anesthesiology)</p>
<p><b>Students’ clinical knowledge and skills</b> Students’ actual or perceived clinical knowledge or skills</p>	<p><i>“Most supervisors were friendly, but to get more knowledge from them, we need to ask questions actively, but we didn’t know what to ask, maybe because we haven’t known much.”</i></p> <p>(A female student in the Department of Internal Medicine)</p>
<p><b>Students’ initiatives</b> Students willing to take responsibility or action on something without being asked to</p>	<p><i>“The doctor said that the current students were lack of curiosity, but the fact is, we’re uncertain about what to do... it’s not that we wanted to be spoon-fed [...] or lazy, but we’re puzzled and didn’t want to burden the Emergency Room team because we knew everything there needs to be quick.”</i></p> <p>(A female student, Department of Internal Medicine)</p>
<p><b>Curriculum and organization</b> Statement of educational goals to be achieved and how to achieve them through provided learning opportunities within the allocated time, resources, and works in the clinical learning environment</p>	<p><i>“... Meet another doctor today, the only female doctor in this department. We had a clinical tutorial with her, and she told us how to do the examination and how to report the findings.”</i></p> <p>(A male student in Dept. of Dermatology &amp; Venereology)</p> <p><i>“We think, hey, let’s take a mini-CEX with this type of doctor, who’ll let us perform the history taking and physical examination outside, before meeting her, because we’re not that sharp yet unlike our seniors because we’re new here. So we tried to get a mini-CEX with her”</i></p> <p>(A male student in Dept. of Dermatology &amp; Venereology)</p>
<p><b>Senior peers</b> Other medical students in the same rotation who started the rotation a few weeks earlier than participants</p>	<p><i>“I still feel awkward to observe the doctor and senior students taking a history from a patient. Not sure if the patient felt comfortable if there’re too many people observing the history-taking process. I asked one senior student, but he/she said that it’s okay. So yeah, it depends on the situation and the patient.”</i></p> <p>(A Female student in Dept. of Dermatology &amp; Venereology)</p>

### Characters of the supervisors

Students felt more comfortable interacting with supervisors who showed a willingness to teach, concern on students’ learning, and invited them explicitly to participate in clinical activities. These made students feel welcome in the clinical environment. Also, asking questions to test students’ knowledge can promote interaction, particularly when students consider that their deficiencies would be

tolerated. Students in a brief clerkships relationship, as in this study, have been shown to value the use of questioning as a teaching strategy as it is considered to show teachers’ interests and attention to students’ learning.<sup>10</sup> However, when the supervisors’ act of questioning is followed by humiliation, which is defined as “malignant pimping” by Kost & Chen,<sup>11,12</sup> students’ learning can be negatively affected. In our study, a participant expressed the consequence

of humiliation in questioning as demotivating and weakening his confidence. For students during the transition period in curricula, as in this study, unsupportive supervisors can discourage students' participation, weaken their sense of belonging in clinical settings, and hamper identity development as a future doctor.<sup>13</sup> In contrast, the invitation from members of the clinical community, particularly the supervisors, is essential for students to be involved.<sup>14</sup>

### Supervisors' workload

Supervisors' workload was another factor affecting student interaction with the supervisors. As the students did not want to disrupt patient care, they often resorted to passive observer roles when their supervisors were busy, preventing interaction and further participation. As this can detract students from their learning, heavy workload of supervisors can unintentionally lead to learner neglect and contribute to students' internal distress,<sup>15</sup> even more so during the transition period when students struggle to define their position within the new environment.<sup>13,16</sup> Although this situation leads to a suboptimal learning environment, as also found in another study, participants construed the situation in a somewhat positive view because it is related to patient care which is considered necessary.<sup>17</sup>

### Students' clinical knowledge and skills

Students' clinical knowledge and skills played a role in their interaction with the supervisors. It helps students to initiate interaction with supervisors or responding to supervisors' questions. Students who perceived deficiencies in their knowledge and skills tend to shy away from interaction with supervisors, mainly if this will expose their deficiencies. Managing good impressions is considered necessary in clinical learning, particularly at the beginning of clerkship, where students try to build a relationship with supervisors. Revealing knowledge deficiencies perceived by students as a threat to their evaluations and prevents them from obtaining learning opportunities<sup>18</sup>

### Students' initiatives

Students' initiatives, such as asking questions or actively participating in activities in the clinical

environment, promote interaction with supervisors. Furthermore, this can lead to increased learning opportunities, as supervisors usually allow more assertive and enthusiastic students.<sup>5</sup> However, during the transition, students were still uncertain of their roles and what is expected from them<sup>16,19</sup>, which can prevent them from being proactive. In table 1, a participant talked about the fear of being a burden to the ER team that prevented her from showing her curiosity.

### Curriculum and organization

Curriculum and organization of learning in the clinical stage contribute to facilitating interaction between students and doctors. The curriculum includes educational goals, learning opportunities, and time allocation, while the organization of learning includes scheduling and clarity of students' and supervisors' roles. These affect the clarity of students' perception of their goals and roles that helped them navigate their actions in the clinical learning environment and allow them to do mutual interactions with supervisors.

In some clinical departments, targeted competencies were explicitly stated to students in the rotation log book given to each student, and learning opportunities were scheduled, including meeting with supervisors during formal teaching sessions and clinical work. Induction or orientation session was also given to new students, and they were allowed to shadow and observe the work of their seniors and supervisors during the first week. These helped students to familiarize themselves with the new learning environment, including the supervisors. Also, the requirement for students to undergo several mini-CEX with different supervisors facilitated interaction with the supervisors. However, this is not always the case, and students struggle to understand what is expected from them, particularly during interaction with the supervisors. In one clinical department, student-doctors' interaction mainly occurred during patient care, where the priority for patients overrides the priority for learning. Teaching sessions were scarce and depend on supervisor availability. In this situation, interactions with the supervisors were limited. Studies showed that



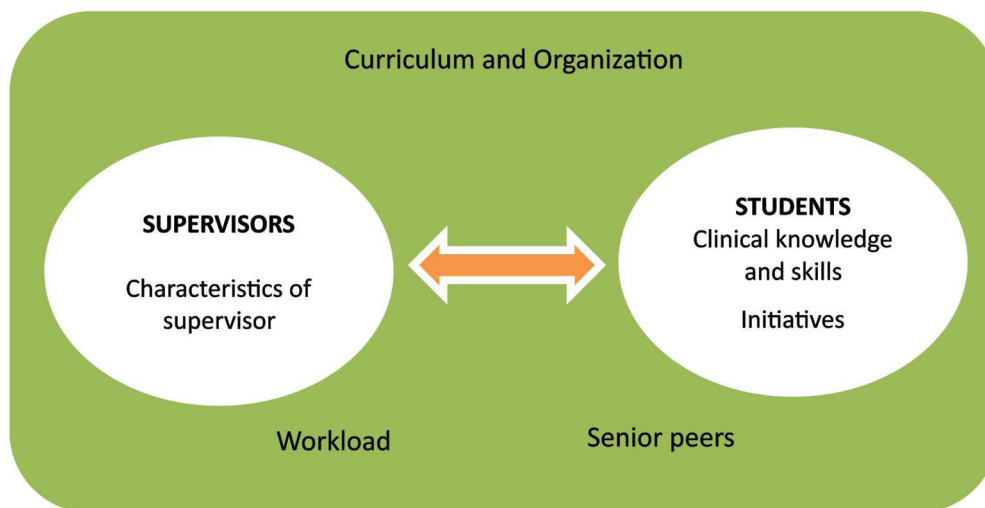
students prefer a more structured clinical rotation for it provides more guidance and encouragement, and give a clearer picture of what is expected from them.<sup>5,16</sup>

### Senior peers

Senior peers informed the participants about the clinical environment: the way of working, the unwritten rules, and supervisors' preferences. These helped the participants develop situational understandings to weigh when and how they could interact with others and participate in clinical

activities. Besides, the senior peers also acted as co-workers and supported adjustment to the new learning environment through vicarious learning. Therefore, the presence of senior peers helped new students to navigate themselves within the clinical environment.<sup>6</sup>

The six themes above are summarized in the scheme below. It is shown here that the interaction between supervisors and students is not only influenced by factors internal to both sides but also influenced by external factors such as curriculum and organization and the presence of senior peers.



**Figure 1** Factors affecting students' interaction with doctors

Medical students were expected to be more self-directed in their learning in the clinical stage compared to the academic stage.<sup>20</sup> Studies showed that proactive students get more opportunities from their supervisors.<sup>5,14</sup> Students' self-efficacy<sup>5</sup> and situational understanding of the new clinical environment<sup>14</sup> influence their proactivity. However, students who were about to start their clinical years were known to have the lowest self-efficacy compared to others<sup>21</sup>, and their situational understanding of the new environment took time to be developed.<sup>14</sup> Besides, during the transition to clinical clerkships, students often experience uncertainty regarding their roles and others' expectations on them.<sup>16,22</sup> This study showed that uncertainty potentially hinders students from being proactive.

Although various factors were affecting the interaction from students' and doctors' sides as well as factors related to the clinical environment (supervisors' workload, curriculum, and organization, the presence of senior peers), our findings showed that interaction between students and doctors during the transition were strongly affected by the doctors. Dornan et al.,<sup>13</sup> identified three dimensions of support for students learning in clinical clerkships: affective, pedagogic, and organizational. Doctors, as supervisors in clinical clerkships, play essential roles in providing these three forms of support. In this study, supervisors' characters promote interaction with students through the provision of affective support to students learning. These findings align with the notion that affective support was an essential part of an interaction and

could further enhance students' participation in the clinical environment.<sup>13</sup> This support was shown by making students feel welcomed and accepted as new members in a clinical environment.

In the absence of this support, for example, when the supervisor ignored students' presence due to a high workload, there was hesitancy from students to initiate the interaction due to fear of disturbing patient care. In this situation, the presence of senior peers helps students interact with doctors by providing information on the culture of a clinical environment and becoming a source of social and academic support for students in the transition period.<sup>23,24</sup>

### Strengths and limitations

Students' experiences analyzed in this study spanned many contexts of clinical clerkships within the institution (clinical departments, patient care settings, teaching, and learning activities). This allows the researchers and readers to get a broad picture of how the interaction between students and doctors occurs in the clinical learning environment and factors influencing the interactions during the transition period.

The credibility of this study is supported by prolonged observation, triangulation, and member check.<sup>9,25</sup> The 73 audio diaries distributed within 12 weeks' experience of clinical clerkships reasonably allow opportunities for prolonged observation. Besides, the interpretation made in this study was not only based on the 76 excerpts containing direct quotations about students' interaction with supervisors but from understandings of the settings and progressions of students' experiences from the complete data set. Information about the time and place of participants' experiences in each audio diary enabled the researchers to compare experiences in a particular clinical department between participants and compare individual participants' experiences in different clinical departments. This way, it helped the researchers to see the wood of students' experiences during the transition and not miss it for the trees. Although the triangulation of data or methods was not carried out, the involvement of two or more researchers in analyzing and interpreting the data (triangulation of researchers) supports the credibility

of the study.<sup>25</sup> The results were fed back to the participants to see if the themes, interpretations, and conclusions made by the researchers have resonance with their experiences, to which the participants agreed and support the results. Their agreement supports the credibility of this study through the member check.<sup>25,26</sup>

Since this study was conducted at one institution with no involvement of residents in training, this may limit the transferability of the findings to other settings. However, description of the study context should enable readers to judge transferability of the findings to their settings.<sup>9,25</sup>

### CONCLUSION

Before students develop a situational understanding of the new environment, their participation might be limited to what the supervisors allow or assign them to do. This study concludes that supervisors strongly influenced interactions with students during the transition by providing affective support.

### RECOMMENDATION

During the transition period, supervisors could provide more support to initiate the interaction before students can develop their confidence to take initiatives. This can begin with supervisors recognizing new students' presence, acknowledging their unfamiliarity to the new environment, and inviting them to participate in the clinical work. Furthermore, supervisors can also show support by asking questions to trigger discussions instead of merely pointing out students' deficiencies. To improve students' experience during the transition, the faculty and supervisors must be aware of these findings and follow it up with faculty development activities to develop the skills to provide this support.

Regarding curriculum and organization, it is crucial for supervisors to orient students on the educational goals and structure of the clerkship, students' and supervisors' roles, and what is expected from them in each learning opportunity. Providing teaching sessions outside clinical work at the beginning of the clerkship also helps students familiarize themselves with supervisors.

Another recommendation is to pair new students with more senior students during the transition so that new students can observe and learn from their senior peers.

### COMPETING INTERESTS

Authors have no financial, general, or institutional competing interests.

### AUTHORS' CONTRIBUTION

Dian Puspita Sari - Designed the study, organized data collection, transcription processes, and completed data analysis, discuss the results, and drafted the manuscript.

Yoga Pamungkas Susani - Designed the study, supervised data collection and transcription processes, performed data analysis, discussed the results, drafted the figure, and commented on the manuscript.

Dewi Suryani - performed data analysis, discussed the results, and commented on the manuscript.

Emmy Amalia - performed data analysis, discussed the results, and commented on the manuscript.

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