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Medical Students' Perception on the Medical Education Learning Environment at the University of Nairobi: A Qualitative Study.

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Abstract**Background**

The educational environment (EE) plays a significant influence in effective student learning. The Dundee Ready Education Environment Measure (DREEM) is a validated tool to assess the EE. DREEM survey done early 2019 among medical students indicated lots of problems. It was therefore important to explore why there was such perception among the medical students.

Objectives

To explore medical students' perception on the medical education learning environment at the University of Nairobi.

Materials and methods

Qualitative focus group discussions were held among medical students from year III-VI in groups of between 8-12 students. The discussions were recorded using phone Samsung J6 voice recorder, transcribed, coded, and analyzed for themes until saturation was reached.

Results

We held 6 focus discussion groups with students from year 3-6. There were four thematic areas that were identified during these focus group discussions. 1. Poor educational infrastructure 2. Poor educational structure 3. Teaching is teacher-centered 4. Lack of social support for student in difficulties.

Conclusion

The exploration of the perception of the educational environment confirms students have poor view of the educational environment and the issues are a good feedback on teaching and governance issues including the social culture of the institution.

Key words: learning environment, DREEM, medical students, qualitative methods

Introduction

An educational environment is constituted of curriculum, infrastructure, administrative structure and personalities of teachers and students combined (1). The experiences by students on these factors affects quality of learning (2). The DREEM is an internationally validated instrument for evaluating the learning environment of medical education and outlines the strengths and weaknesses of institutions based on students' perceptions (3). High scores indicate good perception of the environment while low indicate poor or problematic environment. Core to the learning environment is the curriculum the traditional curriculum has been found to be associated with low score (4-8). Other factors include authoritarianism among the teachers and upper clinical classes that always score low marks for some reason (6,7).

DREEM has been used to improve quality of the surgical environment through reflection on its outcomes (9,10). In improving quality, the reasoning of the responses received sometimes will need to be explored to understand to and increase students' achievement, happiness, motivation, and success. This is done to improve the learning environment without compromising the standards through feedback.

DREEM is one of the validated culturally non-specific tools used to measure the medical education environments, demonstrating the weakness or strength of an institution(9,10).A survey done at the University of Nairobi(unpublished) , school of medicine recently indicated a score of 96/200 that implied weaknesses in the learning environment . We sought to explore the factors that were responsible for this negative perception by the students.

Materials and Methods

After obtaining ethical approval from Kenyatta National Hospital-University of Nairobi Ethics and Research Committee (P55/01/2019), focus group discussions (FGD) were held in the principal researcher's office with 8-12 students for 45 minutes to 60 minutes based on the guiding questions by the principal researcher together with co-investigators. The guiding question was, "The DREEM survey indicated there are more negative perception than positive, what would be the reasons?".

The study population were third to sixth year medical students, who consented in writing for the interview. Purposive sampling was used to recruit the students in stratification according to class until group had 8-12 members. The groups were recruited and interviewed until saturation of themes. During the interviews, the conversations were recorded using Samsung J6 recorder. All the interviews were held in the presence of the three researchers-BG, FA and OD.

Discussions of the interviews were done between the three to agree on the codes and themes there were coming out and memos written on the same. The voice recorders were shared among the three investigators to listen again and confirm the content after transcription for member check. After transcription, the notes coded and entered ATLAS.ti GmbH for analysis. They were analyzed into themes.

Results

We held six interviews; one with fifth years, two with fourth years, two with sixth years and one with third years. There were four themes that were elicited from the interviews.

Table 1: Codes and themes

Codes	Theme
<p>Few and inadequate learning venues</p> <p>Leaking roof of library</p> <p>Lack of learning resources such as white boards, pointers, working microphones and screens for effective learning</p> <p>Wards are very congested by students</p>	<p>Poor or lack of learning infrastructure</p>
<p>A lot of lectures interfering with clinical learning</p> <p>Teachers harass students</p> <p>Examination Centered on knowledge with no time to perform what is required on the logbook.</p> <p>Lack of accountability of the lectures</p> <p>Some lecturers just go through the slides without explaining</p>	<p>Learning process is teacher centered</p>
<p>Lack of proper clinical learning schedule or following those in existence.</p> <p>The cheating is left unpunished</p> <p>Head of departments are not accountable</p> <p>There is no standard way teaching clinical skills</p>	<p>The academic governance is lacking</p>
<p>Lack of psychosocial support program for students who are in distress</p> <p>No mental health supports including those who abuse drugs</p> <p>No anonymous toll-free number</p> <p>Poor coping mechanism with stress</p> <p>There is no social life in medical school</p>	<p>Lack of social support for student</p>

1. Poor or lack of learning infrastructure

The students indicated that whereas the number of students has tripled, the infrastructure remain the same. The infrastructure includes classrooms, wards, library and accommodation. It has made some students to come early while another class is going on in order to get a place to sit, some are forced to sit and listen from outside the class.

“The discussion venues are not available, so we discuss in the open. The library where we may go to read has a leaking roof. Furthermore, we do not have whiteboards and newer materials for learning. The projections boards and the speaker only work for some professors” FGD Year 6

The number of students is high in the practical area leading to inadequate exposure, scheduling for practical skills for logbook becomes difficult and hence students cheat on logbook.

“I don’t know what goes behind deciding the numbers of students. They do not match capacity. If we cannot reduce, we should increase the number of teachers, increase capacity of lecture hall and wards because it frustrates a lot of peoples” FGD Year 3

2. Learning process is teacher centered

There was indication that the learning process does not prepare student well for their profession because it is teacher centered, teachers teach by shaming students and are authoritarian and easily get irritated by questions from students. The interaction with patients which should be a role modelling is limited as they only talk to registrar and not patients. There are no clear objectives for clinical areas.

“There is not enough interaction between learner and teachers because of numbers, it cannot be personalized, and so it is more teacher centered.” FGD Year 4

“Lectures do not interact very much with the patient; they just listen story from the registrars. We expect them to interact well so that we learn from them, but in the ward round, I usually put myself in patient shoe and feel ignored” FGD Year 4

However, the classes with smaller groups like the fifth year indicated that having smaller classes with modular teaching before going to the clinical areas is better.

“In general tutorial are better than large class, they increase people confidence and presentation skill. The only tutorial I have ever attended involved a situation where everyone was given a question and they were to answer” FGD Year 5

3. The academic governance is lacking

The students indicate that the schedules are not justifiable given there are a lot more weeks in year III when they hardly know anything than year IV when they are meant to learn. There is more emphasis on marks and exam than practical skills, the student cheat without real consequence and there are no clear objectives in clinical areas.

“I also have another problem with scheduling, in third year we have 11 weeks and in fourth year, the clinical rotation is reduced from 11 to 6 weeks and fourth year is the foundation year for all the principles. When you go to the final year, they will tell you should have been taught these things in fourth year. They also give you a big logbook, you are expected to know where lumbar puncture is being done, where bone marrow is being done, expected to have gained techniques in physical examination, to go to casualty to fill your log book. You are not doing them to gain skills but so that you can pass the log book. The scheduling of things is not practical.” FGD year 6

Though teachers are knowledgeable, they may not know how to teach and some miss lectures without consequence. This would be sorted out, in the opinion of students by having clear academic governance.

“I do not know whether we have department of medical education, it is a regulation by the world federation of medical education, it oversees the curriculum of teaching in the medical school. The department is aimed at solving the problems in curriculum and teaching... That department would now be able to solve most of these issues, because it seems the evaluation, they give us at the end of the year is not analyzed because they should be giving us feedback and make it public. We need to understand what is going on, who is the lecturer that is missing lectures and what is being done” FGD year 5

The classes that are taught in small numbers like year V and are given lecturers before adequate time clinical areas find it better though they also hardly find time for logbook skills.

“Smaller groups tutorials help build confidence, especially in fifth year where you have modular classes then have time in clinical areas” FGD Year 5

4. Lack of social support for student

The students indicated that the wards are stressful because of the ridicule and shaming they receive from teachers, they take care of patient who die, other get to do postmortem on dead body for the first time. The higher expectation on them and lack of time to take part in extracurricular activities meaningfully place stress and has increased drug abuse, mental issues with no structured support for these things.

“We are stressed all the time, but we are not aware of any system that help those in stress. 90% of us are having mental issues-sometimes you are not motivated, having unsettled mind that frustrates you and some time it is major, and one ends up in contemplating suicide, almost everyone around me I know is going through psychological problem whether or not they say. The system is waiting for big cases, but they should publicize these things. Also, we should be taught how to deal with death of our patients, you spent a lot of time clerking and when the patient dies you become sad, but the consultant will just tell you it will be well.” FGD 6

Discussion

The Dundee Ready Education Environment Measure (DREEM) instrument was used to measure the educational environment and identify problem areas in the education program. Having identified these problems, we needed to find out why.

The overall score of below 100/200 has been found in studies from Asian and Arab world mainly associated with traditional curriculum as compared to modern type that includes problem-based learning or system based learning (6–10). This study indicates that our learning is teacher-centered, exam oriented with lack of academic governance with the teachers perceived to be authoritarian.

These issues are similar in these environments (7,10,11).

The medical school is a habitat whose principal inhabitants are obviously its students for whose education, training and welfare the institution exists, it's very *raison d'être*(12). It is for this reason that how they perceive the learning environment is key to those who run and work within the institution. Year V perceive their environment as more friendly because of the tutorials and modular teaching where they stay in one discipline without having joint classes.

Majority felt the learning environment emphasized factual learning; superfluous teacher centered learning where lecturers just read through the slides as well as overemphasis on scoring on exam. This is similar to the study in Iran(13) and Sri Lanka(14) and contrasting to the study by Abraham in India(15) . Al-Hazimi et al indicated in a study that students in traditional medical curricula often perceived learning as being too teacher centered, dogmatic and over emphasizing on ‘‘rote memorization’’(16). Students proposed the need for professional development on teaching methods for faculty as a way forward apart from need to change to problem-based learning with a balanced curriculum.

The teachers are knowledgeable but lack delivery skills, they are unavailable, irritable, authoritarian and having difficulty in interacting with patients and giving feedback to students. A number of studies have indicated these similar issues (15). The reason for this kind of behavior could be because of overworked teachers (7).

Schedule problems, tension in classes and clinical areas due to personality issues of the faculty leads to lack of confidence, cheating problems, and lack of interpersonal cohesiveness. Similar issues were elicited by two studies (7). Students seem to suggest the role modelling does not allow them learn empathy because it is not often practiced by their teachers. Increased confidence among seniors has been noticed in the studies in Asia(13–15).

Lack of social support during stressful periods with no institutional plans and involvements may be due increased workload of the faculty. Lack of support made students feel neglected and added to the authoritarian nature of the teachers some students felt that their life was being destroyed. Studies have indicated that exam anxiety, lack of leisure time and inadequate resources leads to increased stress(17).

This study was conducted four weeks to exams. End of year exams being psychological pressure exerting activity, it may lead students to have negative perception and hence may have contributed to the finding. The interviewer used guiding questions to avoid biases in the line of questioning and students were also guided by the questions and allowed open ended question.

Conclusion

The poor perception on learning environment noted by the DREEM survey was due to educational factors that include governance, students left of their own during stressful moments because of lack of psychosocial support and lack of long-term investment in infrastructure.

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