Mini Review

CLINICAL INVESTIGATION

Brief review on teaching project

Abstract

Residents are physicians who achieve their learning program "in house"(*i.e.*, the hospital)". In the emergency department, doctors are always eager to learn and to share in the great work of emergency specialists when they receive, diagnose and properly treat shocked patients. The main types of shock include: "Distributive, hypovolemic, cardiogenic and obstructive". Patients present to the emergency department in a life threatening condition, however, by correct diagnosis and treatment they become better and start to survive. This very critical situation, in addition to being stressful and demanding, has a fruitful result that encourages and attracts junior residents to learn and practice new knowledge. Using recent methods of teaching such as flipped classroom, in addition to practical training, is very promising to qualify junior emergency residents in their new job. This project is the first step of a complete curriculum to junior residents in the emergency department that will qualify them according to the most recent guidelines. Junior doctors usually rush in the emergency department due to lack of experience. In addition, our hospital receives many accidents each hour, other than emergent cases of cardiac cause or other medical causes. By teaching juniors the basic knowledge and skills of managing shock, they will be able to save lives and feel satisfied and self-evaluated by their new job.

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Introduction

Needs assessment: The emergency department in our hospital has done a surveillance and field work research which concluded that junior residents are in urgent need for learning the management of different cases and types of shock. Of ten junior residents in my hospital, only two knew accurately the symptoms and signs of different types of shock [1]. Besides, the local governmental authority made analytical studies on statistics of road traffic accidents and statistics of morbidity and mortality in the emergency department in my hospital. The mortality rate was 10%. They recommended more training and teaching sessions for junior residents. So, my teaching session will be a mandatory step in the teaching program of all new residents [2].

According to the "adult learning" theory, residents are oriented to their needs of learning and practicing this critical branch of medicine, so they feel their responsibility about these needs and should do their best to achieve this task, this will help in implementation of this teaching project. To achieve my teaching project, I designed my work as two parts, a theoretical part and a practical clinical part [3].

The theoretical part will be in the form of the flipped classroom. Each lecture will be available in the form of PDF and video and will be sent to the students one day before the class time by email. In the flipped classroom, we reverse the class and create a mixed learning process in which "pupils complete readings at home and work on live problem-solving during class time" [4].The idea of flipped classroom strategy is that "traditional teaching is inverted" [5]. Students read the lecture or watch a video about its content at home. Then they participate in discussions, analysis and problem solving in class. This strategy allows students to learn independently, actively participate and easily understand the teaching material. Also, flipped classroom increases active learning activities and allows teachers to freely interact with students. In the flipped classroom, students take "control and responsibility for their learning" [6].

Literature Review

Students with "higher levels of engagement" with the teaching material "not only learn more" than disengaged students, but also they are "more successful in the long run both academically and professionally" [7-9].

In my project, the lectures will be on Saturday, Monday, Wednesday (9 am to 11 am) every week through the two months, presented in the form of power point and I will use interpolated tests during the lecture, gaining the responses of learners by the audience response system (voting devices). The strong power point has made "powerful change throughout society" [10]. The strong power point means that the slides are clear, written in an acceptable font, can be seen easily by the learners, have no visual or auditory distraction, do not contain too much information and are logically successive. The use of strong power point presentation will be a strong effective way for teaching the resident doctors through decreasing mind wandering and cognitive load over the trainees (residents).

I will use a mix of flipped classroom and Think Pair Shares (TPS) strategies as active teaching methods to achieve maximum benefit to the residents in my teaching session. Shyness prevents students from sharing their ideas in the learning activities during the class, because "shy students struggle with speaking in front of peers" [11]. Using the Think Pair Share (TPS) teaching technique increases the cooperation and interaction between peers, thus, it overcomes the emotional barriers that prevent learning and increases the motivations of recognition. The think pair share activity increases the "student confidence and participation" during the teaching process [12]. In Think Pair Share (TBS), i will divide the learners into five groups, each group consists of two students. Then I will ask everyone in the class to think about the problem for one minute, this will be done by asking a question about the lecture: What do you know about...?, How do you manage..?, Who is interested in...?, Which diagnosis do you think can apply in...?, When will you think about...?, I will use open ended questions through using my 5 friends (What, How, Which, Who, When). Then I will ask everyone to pair his ideas with one colleague for five minutes, then, I will ask every one, successively, to share his ideas to all the class. This way of active teaching will make it easier for students to understand, analyze, apply, and evaluate the scientific material. So, I will make my trainees use their high cognitive powers during the teaching session.

The content of lectures will be genuine and depending on American textbooks of emergency medicine. The lectures will be available in the form of power point slides, PDF and written copy for each resident doctor at any time.

When possible, I will use the "one minute preceptor" method in teaching my students to be sure that they got the idea. In this technique, I will start by allowing the student to present his idea in detail, then, I will ask for reasons and supporting evidence. After that I will teach the student the general rules about the point of discussion, followed by providing the student with positive feedback about what he has done right. At last I will correct any mistakes done by the learner.

Discussion

The clinical part will be on Sunday, Tuesday and Thursday (9 am: 11 am) every week for two months of the project. It will include the practice of managing cases of shock in the emergency department under my supervision. I expect that I will find the different types of shock in each clinical session as the rate of our emergency department is very high. In case there is a shortage of any type of shock, I will use the option of teaching the residents through simulation and videos about shock recorded on YouTube.

Before conducting live patients, residents will take an idea about basic skills on models .They will try the basic skills (e.g. endotracheal tubing, chest tube insertion, intravenous cannulation) on models as a start only. Definite training about these skills will be conducted on next teaching projects. The Egyptian ministry of health will supply me with different types of simulation devices (models), to train the junior residents very well on basic emergency skills before approaching live patients. Training on models will be in the training room in my hospital.

In clinical practice, I will teach the students (residents) everything about management of shock (diagnosis, pathogenesis, pathology, complications, compensation and treatment). I will gain the help of four volunteer emergency specialists to train the residents (after educating them about the basics of recent active teaching strategies explained in T2T program). The clinical part of this teaching project will consist of receiving and management of cases of hypovolemic, distributive, cardiogenic and obstructive shock in the emergency department at our hospital by the residents, under my direct supervision. I will be ready to correct their mistakes at any level of the management plan.

During the clinical part of the project, in the clinical days, the specialist will explain the management plan in front of the resident. Then the specialist will manage a case in the presence of the resident. This will be followed by asking the resident to explain how to manage that specific case, then asking him to manage a case of shock under the supervision of the specialist. I expect that there will be mortality in cases of my project. I will teach my residents how to cope with this, and how to overcome the frustration that occurs to doctors after death of their patient. However, I will teach them how to diagnose death, and how to calculate the mortality rate and do statistical studies on morbidity and mortality.

Context educationally: All junior residents in the emergency department at our hospital are supposed to bear work and be responsible from the very first day of their residency period. This makes their job very critical and life-saving. This fact is the promoting factor for me to achieve my teaching

project as training and creating a new curriculum for them in this very critical topic, shock.

Context physically: Our hospital serves one million people and lies beside a highway, thus, many accidents present to the hospital daily. Besides, many cases suffering from chronic cardiac diseases present by myocardial infarction and cardiogenic shock. Also, we have a diabetic foot infection "unit" and sometimes these cases progress to distributive shock (septic).This makes teaching residents a curriculum about shock very valuable and life-saving.

The existing learning environment: There was no curriculum about shock before. Each learner was achieving his learning program according to his needs and according to the supervising specialist. Putting and teaching this curriculum will continue and will be repeated with every new group of junior doctors presented to the emergency department at our hospital. "Adult learning" will be my strategy in this project. In adult education, adults share in self-learning to get "new forms of knowledge, skills, attitudes or values" [13].

Acceptability: The administration and staff members at our hospital accept this project for training resident doctors to achieve the best service in the emergency department.

Feasibility: This project is feasible and convenient. Both parts (theoretical part clinical part) will be achieved in the hospital. The flipped classroom is available. The emergency department is available. The administration and staff are ready to help. I am well trained about power point technology that will increase residents "attention, visual impact and focus" during the lectures [14]. A budget of 100 thousands LE available by the Egyptian ministry of health.

Sustainability: The hospital administration accepts and supports this project. The training authority in the Egyptian ministry of health and the quality management program will consider my project as 10 credit hours in the Egyptian fellowship program. Moreover, this project will be obligatory in our hospital in the first year of the fellowship program. I will try to generalize my project in all the Egyptian hospitals.

Conclusion

As there is no "gain without pain" and no success without effort. Also there is no project without challenges. My symbol is "Try, Try, Try". I put a scientific and logic plan that expects the challenges and suggests ways to overcome them.

References

1. Vincent JL, de Backer D. Circulatory shock. *N Engl J Med*. 369:1726-34(2013).
2. Jarvis P. Adult education and lifelong learning: Theory and practice. 3rd edition. Routledge Falmer, London, Newyork. (2004).
3. Gilboy MB, Heinerichs S, Pazzaglia G. Enhancing student engagement using the flipped classroom. *J Nutr Educ Behav*. 47(1):109-14(2015).
4. Howard JR, Henney AL (1998) Student participation and instructor gender in the mixed age college classroom. *J Higher Educ*. 69(4):384-5(1998).
5. Howard JR, James III GH, Taylor DR. The consolidation of responsibility in the mixed age college classroom. *Teach Sociol*. 30(2):214-34(2002).
6. Betihavas V, Bridgman H, Kornhaber R, et al. The evidence for 'flipping out': A systematic review of the flipped classroom in nursing education. *Nurse Educ Today*. 38:15-1(2016).
7. Finn JD, Zimmer KS. Student engagement: What is it? Why does it matter. In handbook of research on student engagement. Boston, MA: Springer, US. 97-1(2012).
8. Christenson S, Reschly AL, Wylie C. Handbook of research on student engagement. Springer, New York, NY. 97-1(2012).
9. Evans MA. Shyness in the classroom and home. American psychological association. Washington, DC. (2001).
10. Crozier WR, Alden LE. International handbook of social anxiety: Concepts, research and interventions relating to the self and shyness, Wiley, Westport, CT. 159-3(2001).
11. Sampsel A. Finding the effects of think pair share on student confidence and participation. *Honors Projects*. 28(2013).
12. Merriam SB, Brockett RG. The profession and practice of adult education: An introduction. John Wiley and Sons; San Francisco, CA. 17(2011).
13. Cosgun Ogeyik M. The effectiveness of power point presentation and conventional lecture on pedagogical content knowledge attainment. *Innov Educ Teach Int*. 54(5):503-10(2017).
14. Jersey N. Division of curriculum and instruction. Elementary physical education, Today. Jones and Bartlett publishers. 1167(1970).