

THE EVALUATION OF CLINICAL SKILLS PEER TRAINING WORKSHOP IN THE NATIONAL STUDENT CONGRESS IN YEDITEPE UNIVERSITY MEDICAL SCHOOL

ORIGINAL ARTICLE

Yeditepe Üniversitesi Tıp Fakültesi Öğrenci Yütbat Kongresinde Yapılan Klinik Beceri Akran Eğitimi Çalıştayının Değerlendirilmesi

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ABSTRACT

Objectives: In this study our aim was to evaluate the clinical skills peer training workshop in the First National Student Congress in Yeditepe University Medical School.

Methods: The clinical skills training workshop included the studies of third year medical students through out the year. These are nasogastric catheter insertion, bladder catheterisation, starting an intravenous infusion and intramuscular injection. The participation rate of the workshop was 25% (40 students out of 160). The third year medical students participated in training of the other students and shared their knowledge and skills using the mannikins (Peer education). Each student answered a pretest before the demonstration and a post test after the presentation of the subject.

Results: In the pretest, the highest score was obtained from the questions which evaluated Foley catheter insertion skill (80%) and the lowest score was obtained from the questions which evaluated the intravenous injection skill (%47). In the posttest we determined a statistically significant difference between two group mean scores ($p<0.05$).

Conclusions: The clinical skills peer training workshop in the First National Student Congress at Yeditepe University Medical School was a very useful experience for the medical students who had an opportunity to share their knowledge and skills. The workshop made a difference and contributed to the students who had not find chance to get such a training yet.

Key words: Clinical skills, medical education, student congress, peer education.

ÖZET

Amaç: Bu çalışmada amacımız Yeditepe Üniversitesi Tıp Fakültesi Birinci Ulusal Öğrenci Kongresi'nde yer alan klinik beceri akran eğitim çalıştayı değerlendirmektir.

Yöntem: Klinik beceri eğitim çalıştayı dönem üç öğrencilerinin o sene içinde yaptıkları çalışmaları kapsamaktadır. Bunlar; nazogastrik sonda uygulama, mesane kateterizasyonu, intravenöz ve intramusküler enjeksiyonlardır. Çalıştaya katılım oranı % 25 idi (Kongreye kayıtlı 160 kişiden 40 öğrenci). Dönem üç öğrencileri ön eğitimden geçerek diğer öğrencilerle bilgi ve becerilerini eğitim maketlerini kullanarak paylaştılar (Akran eğitimi). Çalıştaya katılan her öğrenci sunum öncesi ön test ve sunum ve uygulama sonrası posttesti yanıtladı.

Bulgular: Ön testte en yüksek puan Foley kateter uygulama becerisi (% 80) sorularından alınırken en düşük puan olan % 47 intravenöz enjeksiyon becerisi sorularından elde edilmiştir. Son testte iki grup ortalama puanları arasında istatistiksel olarak anlamlı bir fark belirlenmiştir ($p < 0.05$).

Sonuç: Yeditepe Üniversitesi Tıp Fakültesi Birinci Ulusal Öğrenci Kongresi, klinik beceri eğitim çalıştayı tıp öğrencilerinin kendi bilgi ve becerilerini diğer tıp öğrencileri ile paylaşmaları açısından oldukça yararlı bir deneyim olmuştur. Çalıştay kendi üniversitelerinde henüz böyle bir eğitim alma şansı yakalayamayan öğrencilere katkıda bulunmuştur.

Anahtar Kelimeler: Klinik becerileri, sağlık eğitimi, öğrenci kongresi, akran eğitimi.

INTRODUCTION

Clinical training in medical schools at undergraduate level has evolved a great deal since 1980. After World Health Organization has published the Health Personnel Training Manual in 1977(1).revolutionary changes were recommended in the World Congress of Medical Education in Edinburgh in 1988(2). Medical students obtain knowledge and skills necessary to do clinical practice before coming face to face with real patients by practicing in the Professional and Clinical Skills Laboratory using clinical models or working with simulated patients and the evaluation of the medical students is performed by Objective Structured Clinical Exams (OSCEs). OSCEs offer a method to assess clinical competency based on objective testing through direct observation in a formal setting.

Parallel to improving and changing medical education, students of medical faculty aimed to

organize student congress' at which they can share their knowledge with each other and follow up updated improvements of scientific world.

Yeditepe University Medical Faculty Scientific Research Society (YÜTBAT), carried out National Student Congress with participation of 160 students from 27 medical faculty from Turkey at 26-28 May 2006. Students made presentations about predetermined subjects in several fields. The congress scientific programme also included several workshops including clinical skills and case discussions.

The aim of the study was to assess the success of the students who attended to clinical skills workshop with pre- and post exams and also to evaluate the clinical skills peer-education efficacy.

METHODS

This cohort study was carried out among the medical faculty students participated to National Student Congress organized by Yeditepe University Medical Faculty Scientific Research Society (YÜTBAT) at 26-28 May 2006, in Istanbul. Congress scientific program included workshops and case discussions aimed to students to get and revise of clinical skills education.

40 out of 160 students attended to clinical skills workshop. All of the students attended to the workshop were included in the study. There were no exclusion criteria for the study. The workshop performed as peer-training. During the workshop Yeditepe University Medical Faculty 2nd and 3rd year students shared their knowledge and skills that they learn in their clinical skills laboratory and the education was performed on mannikins to their peers. Before the congress voluntary 8 students of 2nd and 3rd phase of Yeditepe University Medical Faculty who were also in the organisation committee of the congress had been chosen and prepared theoretic and practical education content and materials under the supervision of Department of Family Medicine. They also performed a rehearsal of the education session. The content of the workshop predetermined as nasogastric insertion, foley catheter insertion, intramuscular and intravenous injection skills by students.

The workshop and its content announced before and at that day and the students asked to be registered to the organization committee. There was no limit in the number of the students, so any student, was able attend to the workshop. An hour before the presentations the students who would attend to the workshop performed a pre-test including questions about the predetermined subjects and the results loaded to the computer. To measure the knowledge of students, we used our question bank and randomly chose 40 questions covering all the

subjects. The standart test was used for each subject similar to the questions asked in the examinations of the modules. The training sessions were performed as total of 25 minutes, 10 minutes therotical presentation and 15 minutes practical sesssion on manniquin. After the therotical presentations were performed each student was able to do the intervention by themselves. During the workshop, a teaching staff was present in every module as observer and supervisor.

After the training sesssions the same pre-test was performed as post-test to the attending students and the results were loaded to the computer.

The statistical analysis was performed by using SPSS v.14 package program. Student t test was used and percentages were calculated.

RESULTS

40 students out of 160 participating the Congress registered for the clinical skills workshop. Thus, the participation rate was 25%. Demographic characteristics of the students participating in the workshop are summarized in (Table 1).

Table 1. Sociodemographic characteristics of the Students.

Age (mean)	21,3 years
Sex:	16 (40%)
Male	24 (60%)
Female	
Grade:	4 (10%)
1. grade	16 (40%)
2. grade	20 (50%)
3. grade	
TOTAL	40 Students

The mean age of students was 21.3 years. Male participants were 40% of students (n = 16), while 60% was female students (n = 24). Distribution of the classes were the first year constituted 10% of students (n = 4), second year 40% (n = 16) and third graders were 50% (n = 20) of students.

The success rate of the therotical exam before application of the practice workshop is shown in (Table 2).

Subjects of the tests	The percentage of correct answers in the pretest before demonstration	The percentage of correct answers in the posttest after the demonstration
Nasogastric insertion	71%	92%
Foley Catheter insertion	80%	99%
Intramuscular injection	78%	93%
Intravenous injection	47%	89%

In the posttest, there is a statistically significant difference between two group mean scores ($p < 0.05$).

Table 2. The percentage of correct answers in the pretest before demonstration and in the posttest after the demonstration.

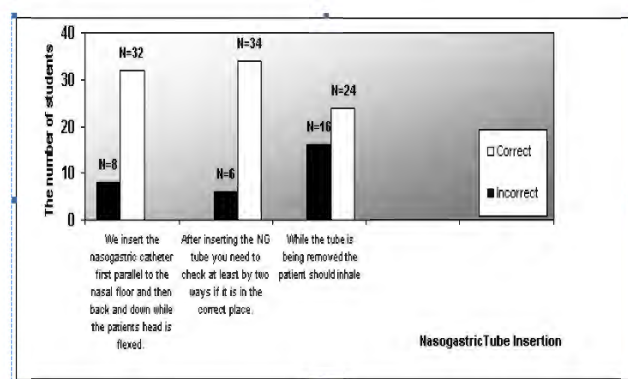
Accordingly, in the therotical evaluation, the most correct answers are given to questions about foley catheter application (80%), while the least correct answers have been given to questions about intravenous injection (47%). However, the success of IM injection therotical knowledge was 78% and nasogastric tube application therotical knowledge was determined as 71%. According to pre-assessment it was seen that students were more successful in foley catheter insertion among other applications.

The overall success of students which include the full range of skills training in the pre-implementation assessment were found to be (69%).

The success of the therotical examination of the students regarding to the application of clinical skills practice after the workshop is shown in (Table 3).According to these results, the highest response rate of 99% was obtained from foley catheter application, while application of intravenous injection had 89% correct answer.

In order to assess students practice skills in nasogastric tube, prior to the application, the most answered questions and the minimum answered questions is shown in (Table 3).

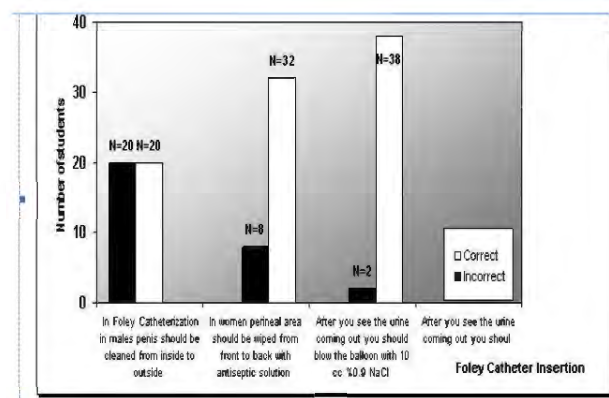
Table 3. In practical skills assessment of nasogastric tube insertion the most and least answered questions .



We insert the nasogastric catheter first parallel to the nasal floor and then back and down while the patients head is flexed (Correct). After inserting the NG tube you need to check at least by two ways if it is in the correct place. (Correct). While the tube is being removed the patient should inhale (Incorrect).

For the Foley catheter insertion skills prior to the application the evaluation of students' ability to apply the most answered questions and the minimum answered questions is shown in (Table 4).

Table 4. In practical skills assessment of Foley Catheter insertion the most and least answered questions



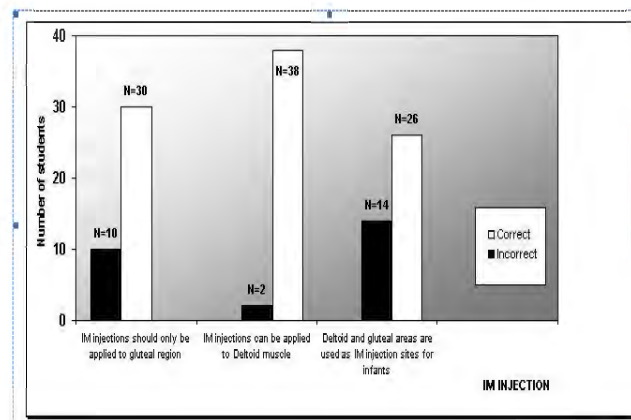
In Foley Catheterization in males' penis should be cleaned from inside to outside (Correct). After you see the urine coming out you should blow the balloon with 10 cc %0.9 NaCl (Correct).

In women perineal area should be wiped from front to back with antiseptic solution (Correct).

It was found that while inserting the bladder catheterisation 50% of the students, did not know how to clean the area using antiseptic solution in men. Students answered correctly that "after seeing the urine, a balloon catheter syringe of 10 cc 0.9% NaCl should be inflated" (95%).

The most and least answered questions regarding to the Intramuscular injection before the demonstration is shown in (Table 5).

Table 5. In practical skills assessment of IM Injection the most and least answered questions.



IM injections should be applied only to gluteal region (Incorrect).

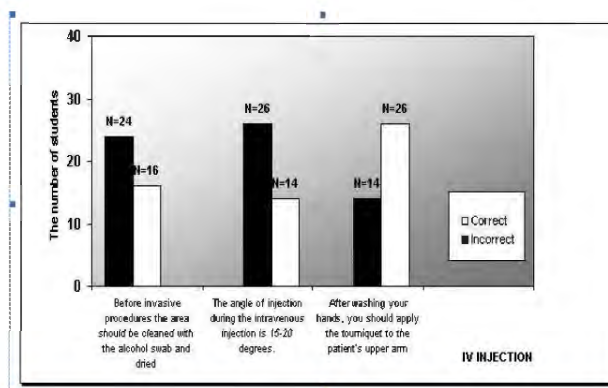
IM injections can be applied to Deltoid muscle (Correct).

Deltoid and gluteal areas are used as IM injection sites for infants (Incorrect).

Thirty-five percent of the students did not know that in neonates the deltoid and gluteal sites were not used for IM injections (65% success).

In order to assess students practice skills in intravenous injection, prior to the application, the most answered questions and the minimum answered questions is shown in (Table 6).

Table 6. In practical skills assessment of IV Injection the most and least answered questions



Before invasive procedures the area should be cleaned with the alcohol swab and dried (Correct).

The angle of injection during the intravenous injection is 15-20 degrees. (Correct).

After washing your hands, you should apply the tourniquet to the patient's upper arm. (Correct).

According to the assessments before application, it was remarkable that students mostly failed in the ability to apply the IV injection.

In the statistical analysis the difference between the two groups (pretest and posttest groups) the average score was $3.5 \pm \text{SD: } 1.97$. Significant correlation value was determined. Demographic characteristics of the students should be taken into consideration as the groups are not homogeneous.

DISCUSSION

Since the 1990s, new approaches are being popular in the education of medical students and teaching methods (3-7). The need to leave the old way of training leads to change over time in all over the world in medical schools.(7-10). In the traditional medical education students learned in the context of typical conceptual knowledge in the curriculum and understanding-oriented didactic training methods were used.(10-14). The process of global change has enabled a restructuring as an innovative and radical methods.

In this study we have demonstrated that peer training can be used as an effective method in practical medical education. There is substantial evidence to support the use of peers in feedback and assessment 15. Peer involvement is beneficial to the students by promoting deeper learning as they increase their effort knowing peers will be evaluating their work and by making students rethink their understanding of the skill in order to be able to provide appropriate feedback. Providing peer feedback prepares students for professional practice where assessment of peers and students is expected. Peer assessment using formative OSCE provides the student with a clear understanding of the performance criteria required for clinical practice. Peer involvement in teaching and learning helps teachers, both by improving the success of student learning and by empowering students to progress through feedback.

The purpose of establishment of clinical and professional skills laboratory is restructuring the basic clinical skills, defined as history

taking, physical examination, the patient doctor relationship, communication skills and occupational skills identified as invasive and non-invasive applications, which are necessary for the granting of education and evaluation.

Before facing with real patients the students are prepared for the clinical applications with standardized patient education or using models. Clinical skills laboratories in our country are used actively in many medical schools. (12-14).

When we compared the participants' average overall success before and after the training, we have seen that the theoretical exam success was significantly increased. It is clear that the reason of the better results in the post test is the learning effect. We have tested the learning effect after the presentations and we think that in other studies we should check the learning effect after three months to see the continuity of the learning effect. In addition, the success level of the students showed a significant difference between pre and post implementation. In other words, it was found significant that being the member of these groups, in which peer-learning method were applied, had a learning effect on the success of this workshop. Therefore, it is thought that peer learning is as effective as other traditional methods. As a result of the present study, it was determined that the increase of the student success, in which peer learning was applied, differed significantly. This study also supports the idea that in peer learning method upper level of learning was provided since the students also taught each other. The statistical analysis revealed that the difference between the two groups average was $3.5 \pm \text{SD: } 1.97$. Significant correlation value was determined as a secondary relation. Demographic characteristics of the students should be taken into consideration as the group of students are not homogeneous.

CONCLUSION

The clinical skills peer training workshop in the First National Student Congress at Yeditepe University Medical School was a very useful experience for the medical students who had an opportunity to share their knowledge and skills. The workshop made a difference and contributed to the students who had not find chance to get such a training yet.

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