

### The Study of Medical Students' Satisfaction with Active Participation in the Presentation of the Topic of Poisoning

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**Background:** Failure in reaching the predetermined goals of education can be considered as one of the most important problems of educational systems. Today, it is believed that active teaching methods are more effective than lecturing which lead to effective teaching. Participation of students in education is one of the major factors of active learning. The purpose of the present study is to determine student satisfaction with active participation (through seminar giving) in the case of teaching the topic of poisonings.

**Methods:** This analytical descriptive study was conducted on all stage students of Birjand University of Medical Sciences who had selected the course of familiarity with poisoning and forensic medicine. The technical part of this topic was taught by students through seminar. For the evaluation of the satisfaction of students a questionnaire was used. Data was analyzed by SPSS 16; Pearson Correlation Test, and Independent T-test and meaningful level was considered as  $p \leq 0.05$ .

**Results:** forty students participated in this study. The mean of satisfaction score of students with active teaching method through seminar was 31.47 (out of maximum 50). The mean of satisfaction score in each one of the fields was meaningfully related with the total average students. The mean score of females in the field of internal interest and motivation was meaningfully more than males.

**Conclusion:** The results of this study showed that students were satisfied with the participation in the process of teaching. Factors such as total average of students and their gender had affected their score which must be taken in to consideration in curriculum planning.

**Key Words:** Student Satisfaction, Active Teaching, Cooperative Teaching, Seminar presentation,

### تحليل مستوى الرضا عند طلاب الطب بالنسبة الى المشاركة الفعالة في تدريس مبحث التسمم

**التصميم والهدف:** إن عدم الوصول الى الاهداف التعليميه المعينه من قبل تعتبر من اهم المشاكل التي تواجه النظمه التعليميه. يعتبر التدريس الموتر احد اساليب العلميه في رفع هذه المشاكل. نعتقد اليوم إن أساليب التعليم الفعالة لها تأثير أكثر من اسلوب المحاضره. مشاركة الطلاب في امر التعليم يعتبر من اهم اساليب التعلم الفعال. الهدف من هذا البحث هو دراهة مستوى الرضا عند طلاب الطب من المشاركة الفعالة في درس التسمم.

**الأسلوب:** هذه الدراره التوصيفيه و التحليليه اجريت عام 1392-91 هـرش على جميع طلاب الطب في جامهه بيرجند للعلوم الطبيه الذي كان عندهم معرفه بدرس التسمم والطب الشرعي. تم تدريس مبحث التسمم من قبل نفس الطلاب على شكل القا. محاضره. و ايضا تم استخدام استمارات لاجل قياس مستوى الرضا عند الطلاب من اسلوب التعليم الفعال و تم استخدام برنامج spss 16 واختبار Pearson واختبار t ( $p \leq 0.05$ ).

**النتائج:** المجموع كان 40 طالب و معدل علامه في مجال مستوى الرضا عند الطلاب من أسلوب التعليم الفعال 31.47 من الاهدأ الأكثر 50. كان معدل علامه مستوى الرضا في المجالات الاربعه له ارتباط ذوقيه مع المعدل الكل للطلاب. كان هناك اختلاف ذوقيه في معدل العلامات بين الذكور و الإناث. حيث ان كانت علامات الأنات في مجال الإهتمام و الاصل اعلى. **الاستنتاج:** تشير نتائج هذه الدراره الى ان هناك شعور جيد عند الطلاب من امر المشاركة في مجال التعليم. واثبتت هذه الدراره الى ان عوامل المعدل العام للطلاب و الجنسيه لربما اثر في مستوى الرضا. لذا يجب أن يوخذ هذا بعين الإعتبار.

**الكلمات الرئيسية:** مستوى الرضا عند الطلاب، التعليم الفعال، التعليم المشترك، القا، محاضره.

### پائزننگ ( زهر کھانے یا زہر سے متاثر) ہونے کے کیسوں میں طلباء کی فعال شراکت پر ان کی رضایت کا جائزہ۔

**ہیک گراؤنڈ:** تعلیمی اہداف تک پہنچنے کا ایک سبب تعلیمی نظام میں خامیاں ہیں، اس بات پر تعلیمی ذمہ داروں کی نظر ہونی چاہیے۔ موثر تدریس ان مسائل کو حل کر سکتی ہے۔ آج کی دنیا میں یہ بات ثابت ہو چکی ہے کہ تدریسی عمل میں طلباء کو فعال طور پر شریک کرنے سے زیادہ مفید نتائج حاصل ہوتے ہیں۔ تدریسی عمل میں طلباء کی فعال شرکت تدریس کے ایک موثر طریقوں میں ہے۔ اس تحقیق کا ہدف پائزننگ کے کیسوں کے علاج میں طلباء کی فعال شرکت کا جائزہ لینا ہے۔ یہ شرکت سیمینار کی صورت میں انجام پائی۔

**روش:** یہ تحقیق دو بارہ بارہ - تیرہ میں بیرجند میڈیکل یونیورسٹی میں انجام پائی۔ اس میں ان تمام طلباء نے شرکت کی جنہوں نے پائزننگ کا موضوع اختیار کیا تھا۔ پائزننگ کے موضوع پر سیمینار کی صورت میں بحث ہوئی۔ اس تدریسی روش سے طلباء کی رضایت کا جائزہ لینے کے لئے سوالنامہ تیار کیا گیا تھا جسکے جوابوں کا تجزیہ ایس پی ایس سولہ سافت ویروا پر پیرس روش سے کیا گیا اور ٹی ٹسٹ بھی اس میں استعمال کیا گیا۔

**نتیجے:** اس تحقیق میں مجموعی طور پر چالیس طلباء نے شرکت کی۔ طلباء کی اکثریت نے اکتیس فیصد نے اس روش پراطمینان کا اظہار کیا اور چاروں محوروں اور طلباء کے اوسط نمبروں میں معنی دار رابط پایا جاتا ہے۔ طالبات کے جوابوں سے معلوم ہوتا ہے کہ ان کے محرکات اور پڑھائی کا شوق لڑکوں سے زیادہ ہے۔

**سفارشات:** اس تحقیق سے واضح ہوتا ہے کہ طلباء تدریسی عمل میں شریک ہونے سے راضی ہیں اور اسی طرح طلباء کے کل نمبر اور جنس بھی ان کی رضایت میں دخل ہے۔ ان امور کو مد نظر رکھ کر تعلیمی نصاب تیار کرنا چاہیے۔

**کلیدی الفاظ:** طلباء، رضایت، شراکت۔

### بررسی رضایت دانشجویان پزشکی از مشارکت فعال در ارائه مبحث مسمومیت

**زمینه و هدف:** شکست در رسیدن به اهداف از پیش تعیین شده آموزش را می توان جزو مهمترین مشکلات سیستم های آموزشی در نظر گرفت. تدریس موثر یکی از راه های فائق آمدن به این مشکل می باشد. امروزه اعتقاد بر آن است که روش های آموزش فعال نسبت به سخنرانی از کارایی بیشتری برخوردار بوده که منجر به تدریس موثر می گردند. مشارکت دانشجویان در امر آموزش از مهمترین روش های یادگیری فعال می باشد. هدف از مطالعه حاضر بررسی رضایت دانشجویان رشته پزشکی از مشارکت فعال (به صورت ارائه سمینار) در تدریس مبحث مسمومیت ها می باشد.

**روش:** این مطالعه توصیفی تحلیلی در سال تحصیلی ۹۱-۱۳۹۲ بر روی کلیه دانشجویان مقطع کارآموزی پزشکی دانشگاه علوم پزشکی بیرجند که درس آشنایی با مسمومیت ها و پزشکی قانونی را انتخاب کرده بودند؛ صورت پذیرفت. تدریس مبحث اختصاصی مسمومیت ها در این مطالعه توسط دانشجویان به صورت ارائه سمینار انجام پذیرفت. جهت بررسی رضایت دانشجویان از پرسشنامه بررسی میزان رضایت دانشجویان از آموزش فعال استفاده گردید. داده ها توسط نرم افزار SPSS 16 و وسیله آزمون همبستگی Pearson و آزمون t مستقل مورد بررسی قرار گرفته و سطح معناداری  $p \leq 0.05$  در نظر گرفته شد.

**یافته ها:** در مجموع ۴۰ نفر در این مطالعه شرکت نمودند. میانگین نمره رضایت دانشجویان از روش آموزش فعال به صورت ارائه سمینار ۳۱/۴۷ (از حداکثر ۵۰) بوده است. میانگین نمره رضایت در هر یک از حیطه های چهارگانه با معدل کل دانشجویان ارتباط معناداری داشته است. میانگین نمره زنان در حیطه انگیزه و اشتیاق به طور معناداری بیشتر از مردان بوده است

**نتیجه گیری:** نتایج این مطالعه نشان داد که دانشجویان از مشارکت در امر آموزش احساس رضایت داشته اند. عوامل همچون معدل کل دانشجویان و جنسیت آن ها بر نمره رضایت آن ها تاثیر داشته که برنامه ریزی های تحصیلی مورد توجه قرار گیرند.

**واژه های کلیدی:** رضایت دانشجویان، آموزش فعال، آموزش مشارکتی، ارائه سمینار

## INTRODUCTION

Learning is a process in which the knowledge and information of a person are increased or the person is trained to be able to do a practical skill(1).According to the important job of medicine (which is saving people's lives) effective ,active, and permanent learning is of considerable importance for the students of this major with which they can guarantee their scientific and professional success and also the health of the society(2).Failure in reaching the predetermined educational goals can be considered as one of the major problems of educational systems which can be overcome through effective teaching(3).Creating a proper atmosphere for increasing learners' participation in the process of learning is one of the most important criteria of effective teaching specially from the viewpoint of the learners(5-3).

Although the new methods of teaching are invented and planned in recent decades, lecturing is still the most popular teaching methodology in higher education system in Iran .In the method the transfer of the information is one sided and is done only by the teacher, in this method the teacher is the only active speaker in the class and the learner is just the receiver and passive. The major advantages of this method include easy planning ,presentation of large amount of material in a short time, and presenting for a large population of learners .On the other hand, there are disadvantages such as learners' being passive, boring process of teaching ,and the decrease of the necessity of lecturing according to the development of new educational technologies(6).

Although the role of lecturing cannot be ignored in the process of learning but in recent years a lot of attempts have been done in the case of improving the teaching-learning methodologies which have been in accordance with the improvements of information technology (7).The emphasis of most of these new educational teaching methodologies is using active learning such as participation of learners in the process of learning. Educational researchers believe that using active learning is an effective learning methodology which leads to greater and faster learning, problem-solving skills and critical learning, longer maintain of data, increase of tendency to team-work, and increase of satisfaction of learners (12-8).

In the present study after the teaching of the general topics of poisoning by the instructor, the technical part of the topic which studies poisons one by one separately has been taught through active participation of the learners. The goal of the present study is the determination of the satisfaction medical students' satisfaction with active participation (seminar) in the teaching of the topic of poisoning.

## METHODS

This descriptive-analytical study has been conducted during 2012-2013 on all stages of Birjand University of Medical Sciences who had selected the course of Getting Familiar with Poisonings and forensic Medicine (40 participants).In this study the topic of Familiarity with poisonings has been presented through seminar by the students. In the first sessions the general information of the topic of Poisoning

were presented by a forensic medicine and poisoning specialist in the class. Then for the technical study of the method of getting poisoned by each poison (such as Amphetamines, Alcohol, and etc.) the educational case was planned which included the presentation of the patient with poisoning symptoms with that specific poison ,evaluation method, and the actions performed for the patient, how to reach the clinical diagnosis, and treatment points of that material. After the end of the general points of the topic, the goals of the educational cases were presented to volunteer students for giving a seminar.

For each session two students were assigned to give the seminar (there were totally 15 sessions for this part).Volunteer students were told that the educational material they were given was just the general parts and they were responsible for getting the complete information from reliable written or electronic sources. As these activities included a part of the score of class activities of the students, because of research ethics the students who did not tend to give a seminar were assigned other jobs, so that they could get the class activity score as well.

For the determination of the satisfaction of students with the active teaching methodology through seminar, questionnaires of Jafari's study were used which included 10 questions and four fields including better comprehension of poisonings(question 1),internal interest and motivation( questions 3 and 4),learning (questions( 7,8,9, and 10) and the relationship of teacher and student (questions 5 and 6).The Answers were classified based on Likert's 5 rank scale from completely agree ( with the score of 5) to completely disagree (score of 1) .Thus the minimum and maximum satisfaction score were 10 and 50. The content validity of the questionnaire was confirmed through a survey of the opinions of faculty members of the Internal Department. The reliability of the tests ,in Jafari's study was confirmed through test retest method ( $r=0.78$ ). Demographic information such as gender, total average, the score the student expected to get, and giving or not giving a seminar was collected in a separate questionnaire.

After data collection, it was analyzed by SPSS 16.For descriptive statistics, data was analyzed through frequency distribution test. For the study of the correlation of the data Pearson Correlation Test and Independent T-test were used. The significance level was  $P \leq 0.05$ .

## RESULTS

40 students participated in this study.24 were female (60%)

**Table 1. The score of student satisfaction with active teaching methodology in each of the fields under study**

fields	satisfaction score mean(SD)
better understanding of the poisonings	3.28 (1.3)
internal interest and motivation	6.07 (2.34)
Learning	12.4 (4.1)
the relationship of teacher and student	6.65 (2.55)

and 16 were, ale (40%).The mean of average score of participants was 16.20(the minimum was 12, and the maximum was 18 and standard deviation was 1.39).29 students (72.5%) gave a seminar.

The average of satisfaction score of participants with active learning methodology through seminar was  $31.47 \pm 10.22$  (the minimum was 10, and the maximum was 50).The mean of each one of four fields has been shown in table 1.Table 2 shows the frequency of the replies to each item.

The study of the relationship of the mean of score of each field with the total average of the students showed that in the fields of better comprehension of poisonings, internal interest and motivation, learning and the relationship of the teacher and student the correlation coefficient have been 0.884, 0.860, 0.935, and 0.854 respectively which has been statistically meaningful in all cases. Table 3 shows the complete information in the case of students with the total average of satisfaction score and average score of each field.

**Table 2: The frequency of agreement of students with the method of teaching**

	Completely agree N (%)	Agree N (%)	Null N (%)	Disagree N (%)	Completely disagree N (%)
This methodology makes it easier to comprehend the topic.	7(17/5)	14(35)	7(17/5)	7(17/5)	5(12/5)
This methodology is better than lecturing for the teaching of the topic of poisoning.	8(20)	10(35)	5(12/5)	11(27/5)	6(15)
This methodology has increased my motivation for the learning of this course.	5(12/5)	8(20)	12(30)	11(27/5)	4(10)
This methodology has made me more interested to attend the class.	6(15)	11(27/5)	11(27/5)	5(12/5)	7(17/5)
This methodology increases the sincerity of the teacher and student.	10(25)	12(30)	8(20)	3(7/5)	7(17/5)
This methodology increases the sincerity of the students.	9(22/5)	10(25)	10(25)	5(12/5)	6(15)
This methodology increases inside and outside class group discussion.	4(10)	12(30)	6(15)	12(30)	6(15)
With this methodology the relationship of the science of poisoning, diagnosis, and treatment is better comprehended...	7(17/5)	15(37/5)	5(12/5)	8(20)	5(12/5)
The relaxing atmosphere of the class improved my learning.	4(10)	16(40)	7(17/5)	9(22/5)	4(10)
With this methodology, trying to find articles related to the topic was useful in the better understanding and I learned a lot from my classmates.	3(7/5)	17(42/5)	5(12/5)	9(22/5)	6(15)

**Table 3. The relationship of the total average of students with the total mean of satisfaction score and mean of the score of each field**

The relationship of total average with	Relation
the mean of total sore of satisfaction	Pearson correlation coefficient (0/031) Significance level (0/845)
better understanding of the poisonings	Pearson correlation coefficient (0/884) Significance level (0/0006)
internal interest and motivation	Pearson correlation coefficient (0/860) Significance level (0/0006)
learning	Pearson correlation coefficient (0.935) Significance level (0/0006)
the relationship of teacher and student	Pearson correlation coefficient (0/854) Significance level (0/0004)

With the significance level of  $p \leq 0.05$  the relationship has been meaningful.

The mean of total score of students' satisfaction did not have a meaningful relationship with their gender ( $p=0.19$ ). In the study of the relationship of the mean score of each field with students' gender ,the results showed that just in the field of internal interest and motivation there was a meaningful difference between the two genders and the mean score of females had been significantly higher than males (6.75 against 5.06, $p=0.028$  and  $t=2.30$ ).Table 4 shows the complete information in the case of the relationship of gender and mean score of students' satisfaction and the mean score of each field.

The examination of the relationship of giving a seminar with the mean score of student satisfaction and the mean score of each field none of the results have been meaningful.

### DISCUSSION

This descriptive analytical study was conducted with the aim of the examination of medical students' satisfaction with active participation (through giving a seminar) in teaching the topic of poisoning. After the teaching of general points of poisonings through lecturing, for the teaching of the topic of poisoning with each substance first a case was prepared based on reliable courses such as patient presentation with the symptoms of poisoning with that special poison, evaluation method and steps taken for the patient ,the method of getting to the clinical diagnosis and treatment points .There were two cases for each session and the provided data for each poison was given to the presenter before the class. After giving all the seminars ,the satisfaction of students was assessed through a questionnaire which was used in Jafari's study .The results of this study showed that the mean score of students' satisfaction with the active learning methodology through seminar was 31.47 (out of 50).In the study of the relationship of the score of each one of the fields of satisfaction with the total average of students the results

showed that in the fields of better understanding of poisonings, internal interest and motivation ,learning ,and the relationship of teacher and student the correlation coefficient has been 0.884, 0.860, 0.935, and 0.854 respectively which have been statistically meaningful.

The results of this study were in accordance to the results of Azadbakht's study and showed that active learning method and presenting the topics by students through Power Point creates motivation ,lively atmosphere ,and enjoying learning(14).Noroozi et al. showed that factors such as teacher not being the only speaker, liveliness of the class ,participation of the students, and searching and asking about the incomprehensible parts, presenting the new topics by the students increased the motivation and interest of nursing and surgery room students in comparison to the traditional method(15,4).In Mehdizadeh et al.'s study ,most of the medical students in the group of learning anatomy through problem-solving believed that this teaching methodology increased their interest and enthusiasm for learning and studying more about the topic(16). In the study of Najafi et al. it was shown that involving the students in the classroom and preparing the class for group discussion are the factors of effective learning from the viewpoint of medical students and students expected the instructors to create an active question and reply atmosphere in class (17, 4).

In accordance with the results of this study in Jafari's study in the case of the comparison of lecturing and eclectic methodologies ,according to the viewpoints of students in the case of satisfaction of medical students in biochemistry in the eclectic group showed that students prefer this method to lecturing and believed that eclectic method in the teaching of biochemistry increased motivation, interest, and student comprehension ,it also facilitated the comprehension of biochemical mechanisms and the relationship of biochemistry with the diagnosis and

**Table 4. The relationship of students' gender with the total mean score of satisfaction and mean score of each field**

	Gender	Mean score	Relation
The mean of total score of satisfaction	Female	33/20	$t=1/32$
	Male	28/87	$p=0/19$
Better understanding of poisonings	Female	3/33	$t=0/34$
	Male	3/19	$p=0/73$
Internal interest and motivation	Female	6/75	$t=2/30$
	Male	5/06	$p=0/028^*$
Learning	Female	13/04	$t=1/21$
	Male	11/43	$p=0/23$
The relationship of teacher and student	Female	6/87	$t=0/67$
	Male	6/31	$p=0/50$

\* Significance level has been  $p \leq 0.05$  and the relationship has been meaningful.

treatment of diseases and increased the sincerity of teacher and student(13).

## CONCLUSION

Totally this study showed that the students were satisfied with teaching through seminar, although the role of lecturing cannot be ignored in the process of teaching specially medical sciences, but the authors of this article

would like to suggest that university instructors involve students in the process of teaching and give a part of the task to the students and guide them through. For further studies, the Comparison of active learning methodologies from the point of the effect of these methodologies on the satisfaction, maintaining of the information, learning, and also studying the role of new educational technologies such as mobile software are recommended.

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