

Strategies to Reduce Absenteeism from the Viewpoints of Students at Shahrekord University of Medical Sciences

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Background: In order to transfer teachers' knowledge, the presence of students is necessary in the classroom. Despite numerous studies on the causes of absence, the strategies of its reduction have not been yet investigated and this study intends to address this issue.

Methods: In this cross-sectional study 401 students participated who were selected by systematic random sampling. The students were from different departments of Medicine, Nursing and Midwifery, Health and Paramedicine. A researcher-developed questionnaire was used for data collection. Analysis was performed by SPSS 16 and $P < 0.05$ was considered significant.

Results: Mean scores given by the students to the strategies of absenteeism reduction in order of importance were: mastery of teacher over the course content (4.21 ± 1.06), teacher's attention to students' learning (4.19 ± 0.97), teacher's well-behaving and respectfulness attitude towards students (4.12 ± 0.95), making the class atmosphere cheerful (4.10 ± 1.03), teaching main contents of course (4.05 ± 1.03), practical teaching and trying to attractive the content (4.04 ± 0.99), using a variety of teaching methods and new contents (4.03 ± 1.02), responding to the students' questions properly (4.03 ± 1.02), and continuous evaluation (4.00 ± 1.13).

Conclusions: The main proposed strategies to reduce absenteeism, were teacher-related. To implement this strategy, mastery over the course content, teacher's attention to students' learning, teacher's well-behaving and respectfulness attitude towards students, making the class atmosphere cheerful, practical teaching, focusing on main course content, paying attention to the students' attendance, using a variety of teaching methods, and continuous evaluation were suggested.

Key Words: Strategies, Reduction, Absenteeism, Students, Shahrekord Medical Sciences.

راهکارهای کاهش غیبت از دیدگاه دانشجویان دانشگاه علوم پزشکی شهرکرد

مقدمه: به منظور انتقال دانش اساتید به دانشجویان، حضور آنها در کلاس ضروری است. علیرغم مطالعات متعددی که در مورد علل غیبت کلاسی انجام شده، راهکارهای کاهش آن تا بحال بررسی نشده و مطالعه حاضر سعی دارد که به این مقوله بپردازد.

مواد و روشها: در این مطالعه مقطعی 401 دانشجوی شرکت داشتند که با استفاده از نمونه گیری تصادفی سیستماتیک انتخاب شدند. دانشجویان از دانشکده های پزشکی، پرستاری و مامائی، بهداشت و پیراپزشکی بودند. برای جمع آوری اطلاعات از پرسشنامه محقق ساخته استفاده شد و آنالیز اطلاعات با نرم افزار SPSS (نسخه 16) انجام و $P < 0.05$ معنی دار در نظر گرفته شد.

یافته ها: میانگین نمرات داده شده به راهکارهای کاهش غیبت به ترتیب اهمیت عبارت بودند از: تسلط استاد بر مطالب تدریس شده (4.21 ± 1.06)، توجه به یادگیری (4.19 ± 0.97)، خوش اخلاق بودن استاد و داشتن رفتار محترمانه با دانشجویان (4.12 ± 0.95)، شاد بودن جو کلاس (4.10 ± 1.03)، تدریس مطالب اصلی درس به صورت کاربردی و تلاش در جذاب کردن محتوای درس (4.05 ± 1.03)، اهمیت دادن به حضور دانشجویان (4.04 ± 0.99)، استفاده از روشهای متنوع و محتوای جدید در تدریس (4.03 ± 1.02)، پاسخ دادن به سؤالات دانشجویان بطور صحیح (4.03 ± 1.02) و ارزشیابی مستمر (4.00 ± 1.13).

نتیجه گیری: مهمترین راهکار پیشنهادی دانشجویان مربوط به استاد بود. برای پیاده سازی این استراتژی، تسلط بر مطالب تدریس شده، توجه به یادگیری دانشجویان، خوش اخلاق بودن و داشتن رفتار محترمانه با دانشجویان، شاد کردن جو کلاس، تدریس مطالب به صورت کاربردی، تمرکز روی محتوای اصلی درس، اهمیت دادن به حضور دانشجویان، استفاده از روشهای متنوع تدریس و ارزشیابی مستمر پیشنهاد می گردد. **کلمات کلیدی:** راهکارها، کاهش، غیبت، دانشجویان، دانشگاه علوم پزشکی شهرکرد

أمالیب تقلیل مستوى الغياب من خلال رؤية طلاب جامعه شهرکرد للمعلوم الطیبه

المقدمه: حتى يتم نقل المعلومات العلمية من الأساتذة الى الطلاب يكون حضور الطالب بفاعلات الدرس امر ضروري. بالرغم من اجرا دراسات كثيرة حول الاسباب المؤدية الى غياب الطلاب لم يكن هناك دراسات تبحث في الاسباب لتقليل مستوى الغياب وتسمى هذه الدراسة الى دراسة هذه الاسباب.

الاداب: اشترك في هذه الدراسة بالمطوية 401 من الطلبة وتم اختيار العينة بأسلوب عشوائي. الطلاب كانوا من كليات الطب، التمريض، الصحة. تم تجميع المعلومات عبر استمارات علمية وتم تحليل المعلومات بواسطة برنامج SPSS (النسخة 16) وتم اخذ $P < 0.05$.

النتائج: إن معدل العلامات المعطاة لأسباب تقليل الغياب حسب الأهمية كانت عبارة عن: الكفاية عند الإسناد في مجال تدريس الطالب (4.21 ± 1.06)، الإلتفات في مجال التعليم (4.19 ± 0.97)، الإلتفات الحسنه عند الإسناد و الأسلوب المؤدب مع الطالب (4.12 ± 0.95)، وجود جو ممتع ممتع (4.10 ± 1.03)، تدريس الطالب بشكل تكون مفيدة علميا و جذابه بالنسبة للطلبة (4.05 ± 1.03)، ابداء الرغبة من قبل المدرس في حضور الطالب (4.04 ± 0.99)، استخدام أساليب متنوعة و جديده في التعليم (4.03 ± 1.02)، الإجابة على اسئلة الطلبة بأسلوب صحيح (4.03 ± 1.02) و التقييم المستمر (4.00 ± 1.13).

الاستنتاج: اهم الاسباب المقترحة من قبل الطلاب كانت مرتبطة بالاسناد لاجل اجرا. هذه العظة يجب اخذ بعين الاعتبار الامور التالية: وجود قدره علمية كافية لاجل اوصول المعلومة الى الطالب، الإلتفات الى تعلم الطلبة، الاخلاق الحسنه، و وجود سلوك مؤدب مع الطالب، ايجاد جو ممتع. تدريس المعلومة بشكل تكون علمية للطلاب، التركيز على المحتوى الاصلى للدرس، اعطاء الصية لهضور الطالب، استخدام اساليب تعليمية متنوعه و تقييم مستمر. **كلمات المفتاح:** أساليب، تقليل، الغياب، الطلاب، جامعه شهرکرد للمعلوم الطیبه.

شهر کرد کی یونیورسٹی آف میڈیکل سائنس میں کلاس میں غیر حاضری کم کرنے کے طریقہ ہائے کار

ہیک گراؤنڈ: علم اور تجربہ حاصل کرنے کے لئے طلباء کا کلاس میں حاضریوں نہایت ضروری ہے۔ غیر حاضری کے اسباب جاننے کے لئے کافی تحقیقات ہوتی ہیں لیکن غیر حاضری کو کم کرنے یا طلباء کو کلاس میں حاضر ہونے کی ترغیب دلانے کے سلسلے میں کوئی خاص تحقیقات انجام نہیں پائی ہیں۔ یہ تحقیق اسی موضوع پر کی گئی ہے۔

روش: اس تحقیق میں چار سو ایک طلباء نے شرکت کی جن کا تعلق میڈیکل، نرسنگ اور میڈوائفری، حفظان صحت اور پیرا میڈیکل شعبوں سے تھا۔ طلباء کے نظریات جاننے کے لئے انہیں ایک سوالنامہ دیا گیا۔ جوابات کا تجزیہ ایس پی ایس ایس سافٹ ویئر سولہ سے کیا گیا۔

نتیجے: اس تحقیق سے یہ معلوم ہوا ہے کہ اگر استاد موضوع پر عبور رکھے اور طلباء کے ساتھ خوش اخلاق ہو اور خندہ پیشانی سے پیش آئے، کلاس میں دوستانہ ماحول قائم کرے، اور سبق کو دلچسپ بنا کر پیش کرے اور نئے نئے طریقوں سے لکچر کو دلچسپ بنائے تو طلباء ایسی کلاس میں شریک ہونے کے خواہاں ہونگے اور غیر حاضر نہیں ہونگے۔

سفارشات: اس تحقیق سے معلوم ہوتا ہے کہ مندرجہ بالا صفات کا حامل ہونا طلباء کو کلاس میں شریک ہونے کی ترغیب دلاتا ہے لہذا ان کی پابندی کرنا مستحسن ہے۔

کلیدی الفاظ: تحقیق، نئے طریقے، دلچسپ بنانا، خندہ پیشانی۔

INTRODUCTION

The classroom is a good place to transfer teachers' experiences to students and provide a better understanding for them. Presence in the classroom not only helps the students in understanding the contents, but also places them in a better situation to solve hard problems (1). Those who know the importance of students' attendance in class, believe that presence in class, increases students' knowledge, promotes their ideas, and change their attitudes (2). In this regard, a study showed that class attendance reduces academic failure. This study also presents that factors such as poor teaching methods, non usefulness of contents, class overcrowding, lack of students' participation in class discussions, are the absence reasons (3). Recently, students' absence is one of the increasing problems at universities of medical sciences and if the teacher does not check the attendance, some of students do not come to the class even once (4). This issue disrupts the teaching-learning dynamic environment and converts it into a dull and unpleasant one (5). The core of medical education, are the learners who acquire the knowledge and skills needed for serving the society through to active participation in class discussions (6). The teacher also plays a special role in medical education by having features such as mastery over the content, power of speech and the ability to transfer knowledge (5). In a study, inappropriate teaching (7) and in the other study, teacher performance and educational problems (8) had the greatest impact on student absenteeism. Doyle et al, reported that the main reasons for absence are: travel, dissatisfaction with the class schedule and personal problems (9). Another study showed that the lesson content and attractiveness of the teacher's speech are effective in increasing the presence of students in class (5). In the study conducted by Fleming et al, most of the students reported that stress, weak speech of the teacher, inappropriate time of class, and poor contents, are the reasons for their absence (10). Timmins et al reported that the unauthorized absenteeism of nursing students in clinical programs is more than the theoretical classes and in both, the main reasons for absence were personal and family problems and stress (11). A study, which was conducted on medical students in Semnan University of Medical Sciences, reported that inappropriate teaching method, lack of sleep and rest at night, are the most important factors affecting the students' presence in class (12). Another study in Jahrom University of Medical Sciences, reported that inappropriate teaching method and little class efficiency are the factors that affect the absence (13). The findings of a study, which was conducted at Tehran University, imply that inappropriate teaching methods are the most important cause of absence (14). Students' presence in the class has a potential impact on the ability of them in future activities. Despite numerous studies on the causes of absenteeism, the absence reduction strategies have not yet been investigated from the students' perspective. Thus, the aim of the study was to determine the strategies to reduce the absenteeism from the viewpoints of students in Shahrekord University of Medical Sciences.

METHODS

The population of this cross-sectional study was all students studying in the second semester of the academic year 2014-2015 in Shahrekord University of Medical Sciences. The Participants were 401 students from the departments of Medicine, Nursing and Midwifery, Health and Paramedicine. The inclusion criteria were studying in the 2nd to 8th semesters and a willingness to participate in the study. Guest and transfer students were excluded from the study due to their particular conditions. Systematic random sampling was carried out and at the beginning of study, the first sample was selected randomly, then the rest was selected with equal distance from each other. The sample size with 95% confidence interval and $\alpha=0.05$ was estimated 378 students and due to possible dropouts, 401 subjects were studied. For data collection, a questionnaire was developed by the researcher to measure the individual variables and form of students' suggested strategies with 5 parts scale.

In order to develop the form, a pilot study was firstly conducted on 30 students asking "What are your proposed strategies for reducing the absenteeism" and they expressed suggested solutions. Then, based on their suggestions, a form containing 27 items was designed and its content validity was confirmed by 10 experts. To verify the reliability, the form was given to 21 students and by Cronbach's alpha coefficient, the reliability was determined 0.93. Data collection was performed with coordination of education section at the end of the second semester 2014-2015 academic years. The researchers personally attended in all classes and explained the purpose and significance of study to students. Also, they were asked not to consider a particular teacher and to respond to questions generally. Data analysis was performed with SPSS 16 using descriptive statistics (Mean \pm SD and Percentage) and analytical statistics (Pearson correlation test) and $P<0.05$ was considered significant.

RESULTS

Mean age of students was 22.21 ± 4.69 (range: 18-49) years. Eighty-one percent of students were female and 19% were male. Eighty-two percent of the students were single and 18% were married. About 65 percent of students were native to the province and the rest were non-native. The suggested strategies for reducing the absenteeism from the viewpoints of all students in four schools are presented in Table 1, indicating that the students reported higher rates of effectiveness for all of the proposed strategies, and among them, strategies related to the teacher were more important (Table 1). Mean scores given by the students in each of the proposed solutions are presented in Table 2, indicating that the mean scores of the teacher-related items were of more importance than other items (Table 2).

The Pearson correlation test showed that there is not a significant relationship between the individual variables of students such as age ($P=0.25$), gender ($P=0.71$), marital status ($P=0.10$), nativity ($P=0.19$), department ($P=0.32$), and grade point average ($P=0.65$) with the proposed strategies to reduce the absenteeism.

Table 1. Frequency of students' views on the effectiveness of strategies to reduce absenteeism						
Row	Effectiveness Strategies for reducing the absence	Too much No (%)	Much No (%)	Moderate No (%)	Little No (%)	Very little No (%)
1	Teacher's mastery over the lesson content	190(47.4)	131(32.7)	60(15)	7(1.7)	13(3.2)
2	Actively teaching and attention to students' learning	166(41.4)	154(38.4)	57(14.2)	13(3.3)	11(2.7)
3	Teacher's well-behaving and respectful attitude towards students	215(53.6)	104(25.9)	53(13.2)	11(2.7)	18(4.5)
4	Making the class atmosphere cheerful	189(47.1)	128(31.9)	62(15.2)	12(3)	11(2.7)
5	Practical teaching and trying to attractive the content	176(43.9)	160(39.9)	58(14.5)	12(3)	15(3.7)
6	Teaching main contents and not addressing the irrelevant issues	143(35.6)	145(36.2)	83(20.7)	18(4.5)	12(3)
7	Regularly attending sessions and giving importance to the students' attendance	160(39.9)	137(34.2)	69(17.2)	18(4.5)	17(4.2)
8	Using a variety of teaching methods and new contents	143(35.6)	145(36.2)	83(20.7)	18(4.5)	12(3)
9	Responding to the students' questions properly	168(42.4)	118(30.9)	75(19.5)	16(4)	13(3.2)
10	Continuous evaluation throughout the semester	166(41.3)	113(28.2)	70(17.5)	20(5)	32(8)
11	Involving all of students in the class discussions	140(34.9)	128(31.9)	81(20.2)	29(7.2)	23(5.7)
12	Establishing the discipline in class	133(33.2)	151(37.7)	91(22.7)	14(3.5)	12(3)
13	Providing conditions for taking notes in class	162(40.5)	137(34.2)	17(4.2)	17(4.2)	16(4)
14	Continuity of the course content	126(31.4)	147(36.7)	81(20.2)	23(5.7)	24(6)
15	Not providing all the class note in advance	73(18.2)	99(24.7)	113(28.2)	52(13)	64(16)
16	Asking the last session lesson from the absent students	111(27.7)	103(25.7)	94(23.4)	55(13.7)	38(9.5)
17	assigning part of the teaching to students	101(25.2)	118(29.4)	119(29.7)	26(6.5)	37(9.2)
18	Teacher's good appearance	124(30.9)	141(35.2)	77(19.2)	35(8.7)	24(6)
19	Use of teaching aids	150(37.4)	122(29.8)	86(22)	17(4.2)	26(6.5)
20	Increase self-confidence in students	133(33.2)	134(33.4)	97(24.2)	21(5.2)	16(4)
21	Assigning part of the lesson score to attendance	121(30.2)	87(21.7)	94(23.4)	45(11.2)	54(13.5)
22	Reducing the allowed hours of absence	88(21.9)	96(23.9)	121(30.2)	51(12.7)	45(11.2)
23	Reducing the time between the end of one class and start the next class	141(35.2)	114(28.5)	73(18.3)	43(11)	29(7)
24	Holding classes in the morning and early days of week	133(33.2)	122(30.5)	74(18.5)	43(11)	27(6.8)
25	Teaching a lesson by different teachers	79(19.7)	94(23.4)	118(29.4)	54(13.5)	56(14)
26	Appropriate physical conditions of classroom	135(33.7)	126(31.4)	89(22.2)	32(8)	19(4.7)
27	Imposing regulations to facilitate nightly rest and sleep in dormitory	154(38.4)	151(37.7)	71(17.7)	10(2.5)	15(3.7)

DISCUSSION

The main objective of this study was to determine the strategies to reduce absenteeism from the viewpoints of students in Shahrekord University of Medical Sciences. In this regard, the findings of the study showed that from the opinions of students in four schools, the most important proposed strategies were: the teacher's mastery over the course content, actively teaching and attention to students' learning, teacher's well-behaving and respectful attitude towards students, making the class atmosphere cheerful, practical teaching, attending sessions regularly and giving importance to the students' attendance, teaching main contents of the course and not addressing the irrelevant issues, using a variety of teaching methods and up-to-date contents in teaching, responding to the students' questions properly, and conducting continuous evaluations throughout the semester. The strategies for reducing the absenteeism from the viewpoints of students have not been

studied in Iran and the previous studies have just examined the factors influencing the absenteeism. Therefore, there was not a similar study that the findings of the present study can be compared with and now refers to studies that have examined the factors affecting the absenteeism. The teacher's mastery over the course content was the most important effective factor in reducing the absenteeism. The findings of two studies were conducted at Tehran and Semnan Universities of Medical Sciences implies that inappropriate teaching method is the most important cause of absence ((12), (14)). Another study reported that, lack of sleep and rest at night, are the most important factors affecting students' presence in class (12). At Jahrom University of Medical Sciences, a study reported that inappropriate teaching methods, and little efficiency classes are the factors that affect the absence of class (13). The findings of all noted studies are in line with the findings of the present study. A study reported that most of the students believed that the teacher's mastery over the content and power of speech are

Table 2. The mean scores given by the students to the proposed strategies

Row	Strategies of reducing the absenteeism	Mean \pm SD
1	Teacher's mastery over the content	1.06 \pm 4.21
2	Actively teaching and attention to students' learning	0.97 \pm 4.19
3	Teacher's well-behaving and respectful attitude towards students	0.95 \pm 4.12
4	Making the class atmosphere cheerful	1.03 \pm 4.10
5	Practical teaching and trying to attractive the content	1.03 \pm 4.05
6	Teaching main contents and not addressing the irrelevant issues	0.99 \pm 4.05
7	Regularly attending sessions and giving importance to the students' attendance	0.99 \pm 4.04
8	Using a variety of teaching methods and new contents	0.99 \pm 4.04
9	Responding to the students' questions properly	1.02 \pm 4.03
10	Continuous evaluation throughout the semester	1.02 \pm 4.03
11	Involving all of students in the class discussions	1.13 \pm 4.00
12	Establishing the discipline in class	1.03 \pm 3.95
13	Providing conditions for taking notes in class	0.98 \pm 3.94
14	Continuity of the course content	1.15 \pm 3.82
15	Not providing all the class note in advance	1.13 \pm 3.97
16	Asking the last session lesson from the absent students	1.15 \pm 3.76
17	Assigning part of the teaching to students	1.14 \pm 3.74
18	Teacher's good appearance	1.21 \pm 3.72
19	Using of teaching aids	1.28 \pm 3.49
20	Increase self-confidence in students	31.37 \pm 3.44
21	Assigning part of the lesson score to attendance	1.26 \pm 3.33
22	Reducing the allowed hours of absence	1.31 \pm 3.25
23	Reducing the time between the end of one class and start the next class	1.29 \pm 3.22
24	Holding classes in the morning and early days of week	1.31 \pm 3.17
25	Teaching a lesson by different teachers	1.01 \pm 3.12
26	Appropriate physical conditions of classroom	0.95 \pm 3.08
27	Imposing regulations to facilitate nightly rest and sleep in dormitory	0.99 \pm 3.00

the main reasons for students' attending classrooms (15). Similar findings have been reported in another study (16, 17). Lipscomb et al. Has reported that the most important factor in the increasing, attending of students in class, is the teacher characteristics such as his teaching and the charm of his words (4). In another study, mastery of teachers over the subject was the most important factor contributing to students' attending in class (15) which is in line with the findings of the present study, indicating that a teacher must study continually to master the material content.

In the present study, another important strategy which the majority of students considered as effective in reducing absenteeism was actively teaching and attention to students' learning. This finding has been confirmed in other studies (18), (19), (15) as well. In the present study, another important strategy was the cheerful class atmosphere that 79% of students reported as significant in reducing the absenteeism. Although other studies have not studied the role of this factor directly, in a study, motivating the students played the most important role in students' attending in

class. This study also reported that the teacher should keep the classroom activities in a vibrant state and attract the attention of students to learn (18). In this regard, Gump reported that teacher's giving importance to the students' attendance in class and making the lesson attractive for them, was the most important motivational factor for students attending in class (19).

In the present study, Practical teaching and trying to attract the content were strategies which most of the students considered as effective in reducing the absence. A study that examined the attendance of medical students in class, reported that use of the materials presented in classrooms at the patient's bedside, was the factor representing the student's persistently attending classroom (20). A study carried out on dental clinical students, has reported that the expression of clinical experience of teacher and identifying the relationship between the content taught in theory and clinical practice, are important factors of adult learning (21). This finding, which was confirmed in another study (5) is in line with the findings of the present study. Teaching the

main contents of the course and not addressing the irrelevant issues was the other important strategy which 72% of students reported as important in reducing the absenteeism. Although this has not been studied in other studies, it seems that the teacher's attention to main content course enables him that integrates his/her content and teach all course content within the time set. In the present study, regularly attending sessions and giving importance to the students' attendance were other proposed solutions, reported by the most of the students.

The findings of a study reported that in the lack of attendance by the teachers, the possibility of student absenteeism rises to high levels class (19, 22) Timmins et al. reported that for the continuing presence of nursing students in the classroom, control and close monitoring should be done for attendance (11) which the findings of all these studies are in line with current study. Another strategy that the majority of students knew it effective in the reducing of absenteeism was imposing regulations to facilitate nightly rest and sleep in dormitory. In the literature review, we did not find the similar finding, but our experiences shows that living in a dorm and multiplayer rooms causing makes the students stay up all night and at the next morning due to fatigue do not attend in class. Continuous evaluation throughout the semester was another suggestion which about 70% of the participants considered it important in reducing the absenteeism. Wittmann et al. reported similar findings (23) . In the continuous evaluation, the strengths and weaknesses of students are identified and given appropriate feedback to them and this will increase their presence in the class. In current study, involving the students in the class discussions was the strategy which 71% of the participants considered as effective in the active presence in the class. A study reported that if the teachers engage the students in class discussions, the absence of them will be reduced.

Similar findings have been reported in another study (2). In this regard, teachers should make the students actively participate and involve them in all stages of teaching. By doing so, the student tries to rebuild their learning experiences and institutionalize them (24, 25).

The most important proposed strategies of students for reducing the absenteeism were related to teacher. In this regard, teacher's mastery over the content, actively teaching and attention to students' learning, teacher's well-behaving and respectful attitude towards students, making the class atmosphere cheerful, practical teaching and trying to attract the content, teaching main contents and not addressing the irrelevant issues, regularly attending sessions and giving importance to the students' attendance, using a variety of teaching methods and new contents, responding to the students' questions properly, continuous evaluation throughout the semester, and involving all of the students in the class discussions, are suggested.

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Authors' Contributions

Masoumeh Delaram designed the study and wrote the manuscript; Fariba Asefi gathered the data and revised the manuscript. Sahand Shams analyzed the data and revised the manuscript.

Conflict of interest

No conflicts of interest were declared by the authors.

REFERENCES

- Desalegn AA, Berhan A, Berhan Y. Absenteeism among medical and health science undergraduate students at Hawassa University, Ethiopia. *BMC medical education*. 2014;14:81.
- Horton DM, Wiederman SD, Saint DA. Assessment outcome is weakly correlated with lecture attendance: influence of learning style and use of alternative materials. *Advances in physiology education*. 2012;36(2):108-15.
- Deane RP, Murphy DJ. Student attendance and academic performance in undergraduate obstetrics/gynecology clinical rotations. *Jama*. 2013;310(21):2282-8.
- Lipscomb M, Snelling PC. Student nurse absenteeism in higher education: An argument against enforced attendance. *Nurse education today*. 2010;30(6):573-8.
- Silva ET, Nunes Mde F, Queiroz MG, Leles CR. Factors influencing students' performance in a Brazilian dental school. *Brazilian dental journal*. 2010;21(1):80-6.
- Eisen DB, Schupp CW, Isseroff RR, Ibrahimi OA, Ledo L, Armstrong AW. Does class attendance matter? Results from a second-year medical school dermatology cohort study. *International journal of dermatology*. 2015;54(7):807-16.
- Subramaniam B, Hande S, Komattil R. Attendance and achievement in medicine: investigating the impact of attendance policies on academic performance of medical students. *Annals of medical and health sciences research*. 2013;3(2):202-5.
- Vessey JA, Sherwood JJ, Warner D, Clark D. Comparing hand washing to hand sanitizers in reducing elementary school students' absenteeism. *Pediatric nursing*. 2007;33(4):368-72.
- Doyle L, O'Brien F, Timmins F, Tobin G, O'Rourke F, Doherty L. An evaluation of an attendance monitoring system for undergraduate nursing students. *Nurse education in practice*. 2008;8(2):129-39.
- Fleming N, Amies Oelschlager AM, Browner-Elhanan KJ, Huguette PS, Kaul P, Talib HJ, et al. Resident education curriculum in pediatric and adolescent gynecology: the short curriculum. *Journal of pediatric and adolescent gynecology*. 2014;27(2):117-20.
- Timmins F, Kalisz M. Absenteeism among nursing students - fact or fiction? *Journal of nursing management*. 2002;10(5):251-64.
- Vakili A, Teimouri M, Ghorbani R. reasons of absence from clinical foundation classes from the viewpoints of medical students of Semnan university of medical sciences. 2013.
- Karami M, Amanat A, Rasekh JA, Sotoodeh JA. The evaluation of effective factors on attendance in theoretical classrooms, from the viewpoints of medical students of Jahrom's University of Medical Sciences. 2013.
- Moazami F, Bahrapour E, Azar MR, Jahedi F, Moattari M. Comparing two

- methods of education (virtual versus traditional) on learning of Iranian dental students: a post-test only design study. *BMC medical education*. 2014;14(1):1.
19. Mattick K, Crocker G, Bligh J. Medical student attendance at non-compulsory lectures. *Advances in health sciences education : theory and practice*. 2007;12(2):201-10.
20. Chan WP. Assessment of medical students' knowledge retention in a diagnostic radiology course: lecture attendees versus absentees. *Annals of the Academy of Medicine, Singapore*. 2009;38(3):237-9.
21. Millis RM, Dyson S, Cannon D. Association of classroom participation and examination performance in a first-year medical school course. *Advances in physiology education*. 2009;33(3):139-43.
22. Saad ST, Carvalho HF. Motivating medical students to learn basic science concepts using chronic myeloid leukemia as an integration theme. *Revista brasileira de hematologia e hemoterapia*. 2015;37(1):63-6.
23. Gump SE. Daily class objectives and instructor's effectiveness as perceived by students. *Psychological reports*. 2004;94(3 Pt 2):1250-2.
24. Haghghi S, Rokhafroz D, Sayadi N. The Study of the Interaction Effects between Students and Instructors from Shushtar Nursing Students' Perspective. *Future of Medical Education Journal*. 2015;5(4): 20-4.
25. Hasanzadeh M, Maroozi P, Asadi R, Zobein F, Shafiee-Jafarabadi MN. Importance of infrastructure and learners readiness for administration of E-learning in undergraduate medical education. *Future of medical education journal*. 2014;4(2):24-9.
15. Rostamzadeh Z, Zareh Z, Homan K. The viewpoint of paramedical students' of Urmia University of Medical Sciences about the influential factors on teachers' evaluation. *Future of Medical Education Journal*. 2013;3(3):41-6.
16. Wittmann M, Boehm O, Thiessen N, Hoeft A, Knuefermann P, Baumgarten G. [Student evaluation of anesthesiological teaching: steering instrument of a continuous improvement process]. *Der Anaesthesist*. 2012;61(7):588-90, 92-6.
17. Mills LM, Rhoads C, Curtis JR. Medical Student Training on Code Status Discussions: How Far Have We Come? *Journal of palliative medicine*. 2016;19(3):323-5.
18. Avramov P, Avramov M, Jukovic M, Kadic V, Till V. Virtual simulation as a learning method in interventional radiology. *Medicinski pregled*. 2013;66(7-8):33. 5-40.