Undergraduate Medical Students' Absenteeism during Dermatology, Venereology and Leprosy Clinical Postings

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ABSTRACT

Introduction: It was observed that there had been high rate of absenteeism among M. B., B. S., students during Dermatology, Venereology and Leprosy clinical postings, due to which an Indian medical graduate may not be able to fulfil his/her role in managing commonly encountered skin and venereal diseases and leprosy in a primary health centre. This study aimed to identify the main reasons for absenteeism and to know the significance of association between these reasons and high absenteeism.

Material and Methods: A questionnaire based descriptive quantitative cross-sectional study was conducted. Each student responded to a pre validated self administered questionnaire. Chi square test, Z-test were used to analyse the association between different variables under this study. Odds ratio and 95% confidence interval were calculated for all variables. Level of significance was taken as 0.05.

Results: There were 252 M. B., B. S. students from final M. B., B. S., (sixth to ninth semesters), who participated in this survey out of 284 total students. Among the reasons for absenteeism with more than ten absences, the following student related causes were found to have a statistically significant association: Lack of interest in the subject, lack of exclusive exam in the subject of DVL, mood disturbance, movies, peer pressure. Illness, over crowding and small size of the room where teaching was done were statistically significantly associated negatively with high absenteeism.

Conclusion: Student related factors played a role in absenteeism but not teacher related or environmental factors. Initiating an exclusive exam in Dermatology may ignite interest in students to learn.

Keywords: Attendance, Clinical rotation, Exam, Indian medical graduae, Lack of interest in the subject, Practical knowledge, Primary health centre, Reasons for absenteeism.

INTRODUCTION

It was observed that absenteeism rate is high among M. B., B. S. students allotted for clinical Dermatology, Venereology, Leprosy (DVL) postings. Due to lack of requisite knowledge about DVL, arising out of absenteeism, an Indian medical graduate[1] working in a primary health centre (PHC) may not be able to perform his/ her duty well, in treating commonly encountered skin and venereal diseases, thus adversely affecting the society at large.

The primary objective was to find out reasons for absenteeism. The secondary objective was to find out various socio-demographic variables associated with absenteeism and if there is any significant association between them.

MATERIAL AND METHODS

Ethical clearance was obtained from Institutional Review Board of NRI Medical College, Chinakakani. Written informed consent was taken from all study participants and confidentiality was maintained by analyzing the data in aggregate.

A questionnaire based descriptive study was conducted at NRI Medical College, Chinakakani, Mangalagiri Mandal, Guntur Disrict, Andhra Pradesh, India. Primary data was collected using non probability purposive sampling from 252 students in final MBBS i.e., sixth to ninth semesters. Each student responded to a pre-validated self administered questionnaire requesting information regarding reasons for absenteeism and other socio demographic variables.

Inclusion criteria: All MBBS students in final MBBS - part one, part two (sixth to ninth semesters).

Exclusion criteria: MBBS students in first M. B., B. S. (first, second semesters) and second MBBS (third to fifth semesters). MBBS students are allotted to DVL clinical postings during fourth, fifth and sixth semesters for 15 days each (total 45 days during MBBS course).[1] As clinical postings start from third semester, first MBBS (first, second semesters) students were excluded from the study. As DVL postings extend from fourth to sixth semesters, all students in second MBBS (third to fifth semesters) would not have had finished DVL postings. So, they were excluded.

Survey development: A modified questionnaire was developed based on four published studies[2-5] on student attendance which included questions focussing on variables testing the study's objectives and it was checked for validity.

Survey content

The survey questionnaire is composed of five parts that collectively consisted of 42 questions. The first part (15 questions) dealt with students' socio-demographic characteristics and basic information on gender, age, parents' educational status, residence, transport and financial status. The second part (ten questions) dealt with perceptions of students towards DVL clinical posting. The third part (two questions) composed of number of absences and reasons for absenteeism. Number of absences were classified into less than ten and more than ten. Reasons were classified into student related, teacher and teaching related and environmental factors. Students were asked to mark if they agree or disagree for the reason mentioned for absenteeism. The fourth part (12 questions) has assorted questions to measure students opinions on the number of

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students posted to DVL and number of cases seen during DVL clinical postings. The fifth part has three questions about DVL out patient (OP) teaching room size, audibility and mike usage preference. The survey tool was piloted on few students, but this data was not included in this study sample. Third part addresses primary objective and rest of the parts address secondary objective.

Following distribution of survey tool, students were asked to tick the appropriate option for the questions and these forms were collected immediately to prevent information contamination. Data were reorganized into two categories and statistical tests were applied. Data was processed by using Medcalc.org free trial version software.

STATISTICAL ANALYSIS

Descriptive cross-sectional quantitative study was conducted using a pre tested self administered questionnaire in March 2015. The primary outcome indicator was self reported voluntary absenteeism from DVL clinical postings. Chi square test with Yates correction, Z test were used to analyse the association between different variables under study. Odds ratio (O. R.) and 95% confidence interval (C. I.) were calculated for all variables. Level of significance was taken as 0.05. Non response bias was eliminated partially by including only those students who

responded to the questions. This study has fulfilled the criteria for STROBE checklist for cross sectional studies.

RESULTS

If the number of cases seen was less than or equal to ten in 15 days during fifth semester or if minimum number of cases seen per day was less than or equal to four, there is high absenteeism with statistically significant association in this study.

Chi square test with Yates correction, Z test were used to analyse the association between different variables under study. Odds ratio (O. R.) and 95% confidence interval (C. I.) were calculated for all variables. Among the reasons for absenteeism with more than ten absences, the following were found to have statistically significant association: Lack of interest in the subject, lack of exclusive exam in DVL, mood disturbance, movies, peer pressure [Table 1]. All these were student related reasons.

The following were not the reasons for absenteeism in those with more than ten absences with statistically significant association: Illness, over crowding and small size of teaching room [Table 2].

Among student related factors, exam preparation, exams, home work in other subjects, family commitment were not the causes for high absent rate but post exam holiday mood and transportation problem were causes for high absenteeism.

S. No.	Variable	Absences		N	x^2(YC)	P value	O. R.	95%CI	Z-statistic
		<10 (%)	>10 (%)						
	Student related factors								
1	Lack of interest in the subject			226	12.9	<0.001	0.2884	0.1431 to 0.5813	3.477
	Agree	43(67.1)	21(32.8)	64					
	Disagree	142(87.6)	20(12.3)	162					
2	Lack of separate exam			221	7.86	0.005	0.3704	0.1820 to 0.7535	2.741
	Agree	75(73.5)	27(26.4)	102					
	Disagree	105(88.2)	14(11.7)	119					
3	Mood disturbance			220	12.2	<0.001	0.2926	0.1436 to 0.5961	3.384
	Agree	59(70.2)	25(29.7)	84					
	Disagree	121(88.9)	15(11.0)	136					
4	Movies			223	33.6	<0.001	0.1319	0.0626 to 0.2778	5.33
	Agree	36(58.0)	26(41.9)	62					
	Disagree	147(91.3)	14(8.6)	161					
5	Peer pressure			219	4.49	0.034	0.4571	0.2193 to 0.9530	2.088
	Agree	40(72.7)	15(27.2)	55					
	Disagree	140(85.3)	24(14.6)	164					

N stands for total; X^2 stands for Chi square test; YC stands for Yates corrected; O. R. stands for odds ratio; C. I stands for Confidence interval.

Table-1: Statistically significant association between student related reasons for absenteeism and high absences.

S. No.	Variable	Absences		N	x^2(YC)	P value	O. R.	95%CI	Z-statistic
		<10 (%)	>10 (%)						
1	Over crowding			225	6.98	0.008	2.4861	1.2491 to 4.9482	2.593
	Agree	134(85.8)	22(14.1)	156					
	Disagree	49(71.0)	20(28.9)	69					
2	Small size of room			225	4.38	0.036	2.0453	1.0388 to 4.0271	2.07
	Agree	119(85.6)	20(14.3)	139					
	Disagree	64(74.4)	22(25.5)	86					
3	Illness			229	9.58	0.002	2.971	1.4626 to 6.0354	3.011
	Agree	114(89.0)	14(10.9)	128					
	Disagree	74(73.2)	27(26.7)	101					

N stands for total; X^2 stands for Chi square test; YC stands for Yates corrected; O. R. stands for odds ratio; C. I stands for Confidence interval.

Table-2: Statistically significant negative association between two environmental and one student related reasons for absenteeism and high absences.

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Among the teacher related factors, variable quality of teaching, popularity of faculty members were not the causes for high absences. Students who felt that they did not learn much when they had attended clinical postings were more absent, in subsequent clinical postings, than those who did not feel so. Students who felt that only theory was taught during clinical postings, thought of attending a lecture as an alternative and there was a high absent rate among them. Showing power point slides instead of patients in clinical postings was not the cause for high absenteeism.

Among environmental causes, poor illumination was not the cause for high absences. Bad weather was agreed upon as the cause for high absences though not to a significant extent.

There were 252 MBBS students who participated in the survey out of 284 total students, with a mean age of 20.8 years with an S. D. of 2.1 years, comprising of 85 (33.7%) males, 164 (65%) females (M:F=1:1.9) and three non respondents. Response rate was 88.7% [Table 3].

Females were more absent than males. *P*-value in this case was 0.076, O. R was 1.9, 95% C. I was 0.9 to 4.2, Z-value was 1.7. If the educational status of mother was degree and that of the father was post graduation, the rate of absenteeism was high. The association of absenteeism of students with post graduate education of their father was statistically significant. If the head of the student's family holds a white collar job (Professional), the rate of absenteeism of students was high. Students who studied in government schools were more highly absent than those who studied in private schools. Students whose school study was in India, were slightly more absent than those who studied abroad. If the background of students is rural, they were more absent than those with urban background. *P*-value in this case was 0.206, with O. R. of 1.5, 95% C. I being 0.7 to 3.1, Z-value being 1.2. Students whose family financial status was middle class or lower were slightly more absent than those who were from a higher income family. If there is no financial problem in the family, there is more absenteeism. Students whose funding source of education was scholarship were more absent than those with parents as funding source. Socio-demographic variables and other variables with statistically significant association with high absenteeism are shown in tables 4-6.

Students who felt that their actual degree of commitment to education was less, were more absent than those with high degree of commitment to studies. Students who were not ready to take responsibility for their own learning were more absent than those who were ready to take responsibility. Those students who felt that the teaching in DVL clinical posting was poor, were more absent than those who did not feel so, though this has no significant association.

If the number of clinical cases seen by students in each of fourth, fifth, sixth semesters was less, then they were more absent. If the maximum number of cases seen per day by the student was less than or equal to eight, they were more absent. If the number of cases seen was less than or equal to ten in 15 days during fifth semester or if minimum number of cases seen per day was less than or equal to four, there is high absenteeism with statistically significant association in this study.

DISCUSSION

Student related factors were the only causes for absenteeism in

S. No.	Sociodemographic variables	N	%
1	Gender	249	
	Male	85	34.1
	Female	164	65.8
2	Why did you join MBBS?	243	
	Self motivation	196	80.6
	Parents wish	43	17.6
	Peer pressure	1	0.4
	Social status	3	1.2
3	MBBS admission category	243	
	A	130	53.4
	B	24	9.8
	C	89	36.6
4	Mother's education	245	
	Illiterate	12	4.8
	≤ 10th class	55	22.4
	Intermediate	34	13.8
	Degree	99	40.4
	PG	45	18.3
5	Father's education	242	
	Illiterate	4	1.6
	≤ 10th class	30	12.3
	Intermediate	16	6.6
	Degree	92	38.0
	PG	100	41.3
6	Father's/Head of the family's occupation	242	
	Professional	101	41.7
	Non Professional	11	4.5
	Business	97	40.0
	Agriculture	17	7.0
	Others	16	6.6
7	Schooling	244	
	Government	19	7.7
	Private	225	92.2
8	Higher secondary school certificate	243	
	National	224	92.1
	Foreign	19	7.8
9	Grown up in which area	245	
	Urban	183	74.6
	Rural	62	25.3
10	Current place of residence	247	
	House	121	48.9
	College hostel	119	48.1
	Private hostel	1	0.4
	Room/Apartment with friends	6	2.4
11	Mode of transport, if living outside campus	129	
	College bus	73	56.5
	Own car	33	25.5
	Car pooling	12	9.3
	Bike	11	8.5
12	Financial status	239	
	Poor	9	3.7
	Average	208	87.0
	Rich	22	9.2
13	Financial problem in the family	242	
	Absent	192	79.3
	Present	50	20.6
14	Funding source of your education	242	
	Parents	208	85.9
	Scholarship	31	12.8
	Unspecified source	3	1.2
N stands for total.			

Table-3: Socio demographic variables of students shown in percentage.

S. No.	Variable	Absences		N	X² (YC)	P-value	O. R	95% CI	Z-statistic
		<10 (%)	>10 (%)						
1	Why did u join MBBS?			243	9.31	0.002	2.9722	1.4456 to 6.1108	2.962
	Self motivated	167(85.2)	29(14.7)	196					
	Not self motivated	31(65.9)	16(34.0)	47					
2	MBBS admission category			243	4.37	0.03	1.9848	1.0369 to 3.7994	2.069
	Non management	131(85.0)	23(14.9)	154					
	Management quota	66(74.1)	23(25.8)	89					
3	Father's education			245	6.45	0.011	2.2999	1.1972 to 4.4182	2.5
	Degree and below	123(86.6)	19(13.3)	142					
	Post graduation and above	76(73.7)	27(26.2)	103					
4	Mode of transport, if living outside campus (n=133)			126	4.67	0.031	2.6105	1.0749 to 6.3399	2.12
	College bus	62(86.1)	10(13.8)	72					
	Others	38(70.3)	16(29.6)	54					

N stands for total; X² stands for Chi square test; YC stands for Yates corrected; O. R. stands for odds ratio; C. I stands for Confidence interval.

Table-4: Statistically significant association between socio-demographic variables and high absenteeism.

S. No.	Variable	Absences		N	X² (YC)	P-value	O. R	95% CI	Z-statistic
		<10 (%)	>10(%)						
1	Marks obtained in % in first year			231	4.52	0.033	0.4843	0.2463 to 0.9524	
	2nd class (50-64.9%)	80(75.4)	26(24.5)	106					
	1st class(≥65%) and above	108(86.4)	17(13.6)	125					
2	How do you value DVL clinical posting			239	5.248	0.022	5.4097	1.2555 to 23.3084	2.265
	Highly	39(95.1)	2(4.8)	41					
	Moderately and below	155(78.2)	43(21.7)	198					
3	Interest in learning DVL			242	14.8	<0.001	3.5581	1.8213 to 6.9514	3.715
	Present	153(86.9)	23(13.0)	176					
	Absent	43(65.1)	23(34.8)	66					
4	How do you value a DVL teacher			244	9.27	0.002	2.7222	1.4082 to 5.2624	2.978
	Highly	126(87.5)	18(12.5)	144					
	Moderately and below	72(72.0)	28(28.0)	100					
5	How do you perceive the attendance in DVL clinical posting as			243	35.8	<0.001	7.1378	3.5605 to 14.3090	5.539
	Important	159(90.3)	17(9.6)	176					
	Unimportant and foolish	38(56.7)	29(43.2)	67					

N stands for total; X² stands for Chi square test; YC stands for Yates correction; O. R. stands for odds ratio; C. I stands for Confidence interval.

Table-5: Statistically significant association between part-two variables and high absenteeism.

the present study similar to that in Dashputra study.[4]
Lack of interest in the subject,[4,6,7] mood disturbance,[8,9] peer pressure,[10-12] were significant reasons for absenteeism in this study similar to other studies. Illness was not the cause for high absenteeism in a statistically significant proportion in this study in contrast to Dashputra study.[4] Illness, family commitment, teacher/topic related factors were cited as causes of absenteeism in 62.6% in ophthalmology clinical postings in Dhaliwal study.[13] It was found in some studies[2-4,14] that students avoid clinical postings before, during and after examinations but this finding was not found to be a significant reason for absenteeism in the present study.

Lack of separate exam was found to be a significant reason for absenteeism in this study. As assessment drives learning,[15] initiating an exclusive exam in the subject of DVL may stimulate students to learn the subject.

Teacher related reasons were found to be insignificant in the present study where as they played a role in other studies.[13,16-19] Quality of lecture by the faculty was related to absenteeism of students in different studies[6,20,21] in contrast to the present study. Use of power point slides was not associated with absenteeism in this study similar to that found in Crede study.[22]

More female students being absent in this study contrasts with Ozkanal study,[23] where gender proved to be an insignificant factor for absenteeism. This finding can be explained by the fact that female students in this study constitute nearly twice that of males. Fathers' post graduate education had a significant association with more than ten absences of students, in the present study in contrast to Vongvanith study.[24]

Self motivation was significantly associated with high absences in this study in contrast to that in Desalegn and other studies.[2,6,7,25] Among those students who commute by transportation means,

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S. No.	Variable	Absences		N	X² (YC)	P-value	O. R	95% CI	Z-statistic
		<10 (%)	>10(%)						
1	Why do you want to attend DVL clinical posting			243	17.1	<0.001	3.8951	1.9908 to 7.6211	3.971
	To learn subject	137(88.9)	17(11.0)	154					
	Attendance and socializing	60(67.4)	29(32.5)	89					
2	Maximum no. of students posted to DVL OP each time			245	3.7	0.054	2.4079	0.9617 to 6.0289	1.877
	≤30	183(82.8)	38(17.1)	221					
	≥30	16(66.6)	8(33.3)	24					
3	No. of batches present at each posting			244	8.54	0.014			
	One	24(64.8)	13(35.1)	37					
	Two	126(85.7)	21(14.2)	147					
	One or two	49(81.6)	11(18.3)	60					
4	No. of clinical cases seen by you in DVL Dept. in 5th semester			227	4.48	0.03	0.2018	0.0465 to 0.8751	2.138
	≤10	147(82.5)	31(17.4)	178					
	≥11	47(95.9)	2(4.0)	49					
5	Minimum no. of cases seen per day			231	10.4	0.001	4.9885	1.7241 to 14.4338	2.965
	≤4	186(86.5)	29(13.4)	215					
	≥5	9(56.2)	7(43.7)	16					

N stands for total; X^2 stands for Chi square test; YC stands for Yates corrected; O. R. stands for odds ratio; C. I stands for Confidence interval.

Table-6: Statistically significant association between part-four variables and high absenteeism

other than by college bus, there is evidence of high absences in this study in contrast to Merghani study.[8]

Presence of more number of students or batches at one point of time was associated with high absences in this study. At the same time, over crowding and small size of class room were not mentioned as causes for absenteeism with statistically significant association. In contrast to this finding, positive association between overcrowding in the class rooms and high absenteeism was seen in Fjortoft study.[18]

Significant inverse relation between academic performance and absenteeism was found in the present study, similar to that in multiple other studies.[13,14,17,18,24,26-28] A meta analysis found no such association.[22]

Implications

By teaching already covered lessons, the valuable time of teacher and that of the students will not be put to use optimally. Students tend to attend clinical postings when they get an opportunity to apply theoritical knowledge to clinical setting of diagnosis and management. Interaction between students and faculty during clinical postings fosters professional socialization among students during which students observe teaching faculty and recognize them as role models.[18]

The results of this study have implications for educational policies, professionalism and attitudes of students towards attendance for clinical postings and attitudes of teachers to develop more interactive teaching methodologies.

Limitations

These are recall bias, non response bias and as this study was performed only in a single centre, these results may not be translatable to other colleges with different educational policies or curricula. This study design has no qualitative component without which causality between absenteeism and its predictors cannot be established. Under reporting of absenteeism is possible due to personal reasons. As data was collected in class room, students who do not attend class often, would have had missed to participate in the survey.

CONCLUSION

Student absenteeism is a concern in medical education as it can affect not only the individual but also other students, teachers, and society at large. Absenteeism during DVL clinical postings was associated with lack of interest in the subject, lack of exclusive exam in DVL, mood disturbance, movies, peer pressure. Over all, student related factors alone played a role in absenteeism and not teacher related or environmental factors.

If an undergraduate student does not attend DVL clinical postings during MBBS, he/ she will not get an opportunity to learn even the basics of clinical aspects of the subject of DVL later in their life time, unless he/ she pursues DVL as a post graduate subject. But an Indian medical graduate would be required to treat all commonly encountered skin and venereal diseases at a PHC.

Recommendations

The requirement of minimum of 75% attendance in clinical posting in DVL exclusively, must be strictly implemented. Details of student's attendance for each clinical posting may be informed to their respective guardians. Medical students should be made aware of the problem of absenteeism and its immediate and long term consequences for themselves and for the society at large. Students have to be informed of this during admission and throughout their study in a medical college. Student support systems (comprising of family, peers, faculty and psychologists) must be started in all colleges if they are not already present and they should equip and encourage students to cope with their studies.

Interactive student-centred teaching methodologies, good

learning environment are key motivators for increasing attendance of students. Regular training for the faculty members to help them improve their teaching methodologies could be an useful intervention. Counselling of students to prevent continued absenteeism, and to foster accountability and professionalism is to be stressed upon. Designing effective interventions to facilitate motivation of students to develop interest in the subject of DVL is to be encouraged. Initiating an exclusive examination in the subject of DVL is one of the solutions for enhancing students' attendance regarding DVL clinical postings.

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REFERENCES

1. Medical Council of India[Internet]. Revised Graduate Medical Education 2012. Available at: http://www.mciindia.org/tools/announcement/Revised_GME_2012.pdf. Accessed September 18, 2014.
2. Desalegn AA, Berhan A, Berhan Y. Absenteeism among medical and health science undergraduate students at Hawassa University,Ethiopia. Bio Med Central Medical Education [Internet]. 2014;14:81-91.
3. Westrick SC, Helms KL, McDonough SK, Breland ML. Factors influencing pharmacy students attendance decisions in large lectures. American Journal of Pharmaceutical Education [Internet]. 2009;73:1-9.
4. Dashputra A, Kulkarni M, Chari S, Date A. Medical students' absenteeism in class: reasons and remedies. Journal of Educational Research and Studies [Internet]. 2015;3:24-29.
5. Yousif MA, Eldalo AS, Abd Allah MA, Al-Sawat MA, Al-Wahaibi HM, Al-Osaimi AAS, Al-Gethami SH. Pharmacy education instruction: Preference and practices, Saudi students' perception. Saudi Pharmaceutical Journal [Internet]. 2014;22:309–14.
6. Devadoss S, Foltz J. Evaluation of factors influencing student's class attendance and performance. American Journal of Agricultural Economics[Internet]. 1996;78:499-507.
7. Moore S, Armstronga C, Pearsona J. Lecture absenteeism among students in higher education: a valuable route to understanding student motivation. Journal of Higher Education Policy and Management [Internet]. 2008;30:15-24.
8. Merghani TH, Haroun BE, Elmubarak IA. Self-report of voluntary absenteeism from didactic lectures by medical students. Universal Journal of Education and General Studies [Internet]. 2013;2:324-8.
9. Timmins F, Kaliszer M. Absenteeism among nursing students- fact or fiction? Journal of Nursing Management [Internet]. 2002;10:251-64.
10. Williams B. Education, Social Structure and Development: A Comparative Analysis. 1999. London:Macmillan Press.
11. Sharma MD, Mendez A, O'Byme JW. The relationship between attendance in student-centred physics tutorials and performance. International Journal of Science Education [Internet]. 2005;27:11-21.
12. Wadesango N, Machingambi S. Causes and structural effects of student absenteeism: A case study of three South African universities. The Social Science Journal [Internet]. 2011;26:89-97.
13. Dhaliwal U. Absenteeism and under-achievement in final year medical students. Natl Med J India [Internet]. 2003;16:34-7.
14. BinSaeed A, al-Otaibi MS, al-Zaiyadi HG, Babsail AA, Shaik SA. Association between student absenteeism at a medical college and their Academic Grades. Medical Science Educator [Internet]. 2009;19:155-9.
15. Wormald BW, Schoeman S, Somasunderam A, Penn M. Assessment drives learning: An unavoidable truth? Anatomical Sciences Education [Internet]. 2009;2:199-204.
16. South African College Pricipals Organisation (SACPO) [Internet]. Ramodike SP. Students Absenteeism in the FET Sector, Particularly NCV. Student Support Services. 2007.
17. Hidayat L, Vansal S, Kim E, Sullivan M, Salbu R. Pharmacy student absenteeism and academic performance. American Journal of Pharmaceutical Education [Internet]. 2012;76:1-6.
18. Fjortoft N. Students' motivations for class attendance. American Journal of Pharmaceutical Education [Internet]. 2005;69:15.
19. Newman-Ford L, Lloyd S, Thomas S. An investigation in the effects of gender, prior academic achievement, place of residence, age and attendance on first-year undergraduate attainment. Journal of Applied Research in Higher Education [Internet]. 2009;1:13-28.
20. Massingham P, Herrington T. Does attendance matter? An examination of student attitudes, participation, performance and attendance. Journal of University Teaching and Learning Practice [Internet]. 2006;3:82-103.
21. Gump SE. Guess whos (not) coming to class: student attitude as indicator of attendance. Educational Studies [Internet]. 2006;32:39-46. Available at: http://www.tandfonline.com/doi/ full/10.1080/03055690500415936?scroll=top&need Access= true. Accessed September 18, 2016.
22. Credé M, Roch SG, Kieszcynka UM: Class attendance in college: a meta-analytic review of the relationship of class attendance with grades and student characteristics. Review of Educational Research [Internet]. 2010;80:272–95.
23. Özkanal U. The Relation between success and absenteeism at Esogu English preparatory school. Journal of Language Teaching and Research [Internet]. 2011;2,68-72.
24. Vongvanith VV, Huntington SA, Nkansah NT. Diversity characteristics of the 2008–2009 pharmacy college application service applicant pool. American Journal of Pharmaceutical Education [Internet]. 2012;76:151.
25. Kottasz R: Reasons for student non-attendance at lectures and tutorials: an analysis. Investigations in University Teaching and Learning [Internet]. 2005;2:5–16.
26. Park K, Kerr P. Determinant of academic performance: A multinomial logit approach. The Journal of Economic Education [Internet]. 1990;21:101-11.
27. Friedman P, Rodrigues F, McComb J. Why students do and do not attend classes. Myths and realities. College Teaching 2001;49:124-33.
28. Marburger DR. Absenteeism and undergraduate exam performance. Journal of Economic Education [Internet]. 2001;32:99-109.

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