

ORIGINAL ARTICLE

Medical students' perception and involvement in academic dishonesty: A cross-sectional study in Lahore, Pakistan

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ABSTRACT

Background: Academic dishonesty is a complex issue prevalent in medical institutions around the globe.

Aim: The aim of this study is to determine the perception and involvement of medical students in academically unethical behaviours and potential relationship between the two variables.

Methods: A self-administered questionnaire was used to collect data from 125 MBBS medical students of a private medical college of Lahore, Pakistan. Results were evaluated using chi-square and Fisher's exact test to determine the association of perception with involvement.

Results: 63.2% of respondents were aware of institutional regulations on academic dishonesty but had low understanding and support for these policies. 87.2% of students had witnessed a classmate cheating in a test but majority never reported these acts. High academic workload and family pressures were the leading causes of involvement in academic dishonesty. Sharing assignment's matter and helping a colleague in a test were some of the highly occurring form of academic misconduct. Participants considered that copying colleague's work without permission and using electronic gadgets for help in exams was a serious offence but copying with permission was not. There was no difference between involvement score of students who had awareness about regulations as compared to students who do not have information about it.

Conclusion: This study elucidates that participants get involve in cheating besides being aware of institutional regulations on academic dishonesty and believe that there is no harm in cheating with consent. Institutions should take measures to inculcate values of academic integrity in students and help them better understand the severity of penalties.

Keywords: Academic dishonesty, Misconduct, Cheating, Medical students, Perception

Introduction. The two most significant qualities of an ethically competent physician are honesty and integrity and they are required to be present in the students, right from their college years. Academic dishonesty (AD) contradicts academic integrity, which is a dedication to the values of honesty, trust, fairness, respect and duty (Ahmed, 2018). AD which includes cheating, plagiarism and falsifying documentation, has been widely witnessed at all levels of education ranging from primary to undergraduate and postgraduate level and medical science education is not an exception (Ghias et al, 2014). There is growing evidence that AD is abundant in medical schools around the globe (Shukr & Roff, 2014; Taradi et al., 2012)out of

47 behaviors. Students thought that fellow students were doing dishonest behaviors far more frequently than they themselves were. The commonest dishonest behaviors admitted were proxy attendance (308, 64%. It has been an old concept, but today it is occurring at an increasing rate due to introduction of information technologies such as internet, smart phones and wireless etc. in the field of education. Studies around the globe report that between 40-80% of students are involved in AD at least once (Bayaa Martin Saana et al., 2016). Students' ethics in classroom may impact their ethics as professionals because who cheat in medical schools are known to cheat later on, in patient care, such as shirking responsibility, manipulating medical records and hospitalizing patients for better reimbursements etc. (Taradi et al., 2012)perceived seriousness of cheating, perceptions on integrity atmosphere, cheating behaviour of peers and on willingness to report misconduct. Participants were third-year (preclinical. It is also seen that these students do not have sufficient knowledge and skills required to become an ethically professional doctor and are not fit to practice, thus becoming a danger to public health by pulling in the wrong diagnosis or giving incorrect treatment to patients (Shukr & Roff, 2014)out of 47 behaviors. Students thought that fellow

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students were doing dishonest behaviors far more frequently than they themselves were. The commonest dishonest behaviors admitted were proxy attendance (308, 64%). Studies on motives behind AD have shown that reasons for students' involvement in AD include high academic workload, pressure not to disappoint family and getting good grades, excitement of violating the rules and considering it a norm among educational institutions. Male students are inclined more towards unethical behaviours than females and AD has been found more in students from collectivist cultures as compared to individualistic cultures (Bayaa Martin Saana et al., 2016; Kececi et al., 2011).

Pakistan is amongst those developing countries of the world who are currently facing challenges like poverty, vast social and educational divide and corruption in all aspects of life. It has been hypothesized that recent massive privatization in the field of medical education has led to decrease in standards of education and ethical practices as the focus has been shifted to quantity instead of quality. The issue of AD and misconduct has not been addressed adequately in Pakistan and very few studies are found in literature (Ghias et al., 2014; Nazir & Aslam, 2010). The purpose of this study is to determine the perception of medical students on AD in a private medical college of Lahore and to assess their level of involvement in this menace so that appropriate measures can be taken to improve our educational system by implementing strict punishments and creating ethical awareness. The objectives of this study were to:

- To determine the perception of medical students regarding AD.
- To assess the involvement of medical students in AD.
- To determine the relationship between medical students' perception and involvement in AD.

Methods. *Subjects & study design.* This cross-sectional study was conducted in a private medical college of Lahore, Pakistan after approval from institutional review board (IRB) of institution. A total of 125 MBBS students participated in this survey after taking written consent. 25 students from each academic year were selected through simple random sampling.

Tool for measurement. A validated scenario based questionnaire adapted from a previously published study was used (Bayaa Martin Saana et al., 2016). The questionnaire had three sections. Part A comprised of socio-demographic information like age, gender and year of study. Students' knowledge and understanding about regulations and means of information on AD were asked in part B. It also included students' perception on frequency of occurrence of academic misconduct and its influencing factors. In part C, students were provided scenarios on AD and asked about involvement in them, assigning a level of seriousness for

each practice.

Statistical Analysis. The data was analyzed using S.P.S.S. version 25.0 (Statistical Package for Social Sciences). Frequencies and percentages were given for qualitative variables (gender, perception, involvement). Chi-Square and Fisher's exact test was applied to determine the association between students' perceived seriousness of an academically dishonest behavior and their involvement in them. A p-value of ≤ 0.05 was considered statistically significant.

Results. In this study, 51(40.8%) were male and 74(59.2%) were female. Mean age of the participants was 21.08 ± 1.749 with range of 17-26 years.

Students' Awareness of Institutional Regulations on AD: Participants were asked if they had been informed about regulations on AD in their institutions such as rules concerning quizzes and exams and their answer was gathered on a 3-point Likert scale. 63.2% of respondents agreed that they were aware of policies and mean self-reported awareness was 0.64 ± 0.48 .

Then they were asked about the sources of information on AD guidelines and the extent of their usefulness. Responses were taken on 3-point Likert scale with a list of pre-provided sources of information. 40.8% of students considered friends and classmates as a highly useful source of information followed by discussion with lecturer (36%) and course outline and supporting staff (28.8%) respectively (Table 1).

Students' understanding of institutional policies on AD: We tried to evaluate students' understanding of institutional policies on AD and their perception about its effectiveness and severity of punishments meted out to offenders. Their viewpoint on how lecturers' think and support these rules were also assessed on a 4-point Likert scale. Most of the students believe that severity of penalties on AD was high with mean rating of 3.05 ± 0.78 . They had low understanding and support for these policies, and they didn't find these policies effective as compared to their perception about lecturers' understanding (Figure 1).

Occurrence of academically dishonest behaviours and students' readiness to report wrongdoers: When participants were asked about perceived incidences of academically dishonest behavior in their institution, cheating during class test was seen many times, by majority of students with mean rating of 2.50 ± 0.62 . Exchange of money for academic favors was found uncommon (mean rating of 1.34 ± 0.65). 87.2% of students had witness another student cheating more than once and on average no one had reported this offence.

Factors influencing students to engage in academically dishonest behaviours: The factors that influenced our participants to

indulge in cheating were most importantly, high academic workload (71%) followed by pressure not to disappoint family and achieving good grades respectively (51.2%).

Students' self-reported involvement in different academically dishonest practices: In part C, participants were asked about their involvement in different dishonest practices during exams and assignments. Allowing colleagues to copy assignment followed by helping someone cheat on a test and whispering answers to colleague during an exam were the most commonly observed practices (Mean rating of 2.69 ± 0.65 , 2.51 ± 0.82 and 2.63 ± 0.74 respectively; see Table 2).

Comparison between students' perceived seriousness and involvement in academically dishonest practices: We sought to assess the participants' perceived seriousness of an academically dishonest behavior and their involvement in that act by using Pearson Chi-square and Fisher's exact test. The results showed that most of the students viewed copying from classmate without his/her permission as a serious act of misconduct having strong association with involvement in it along with use of electronic

devices during a test (p-value 0.002 & 0.011 respectively). Not participating in practical group work and allowing a colleague to copy one's assignment had strong association with not serious cheating (p-value 0.047 and 0.005 respectively; see Table 3).

Comparison between students' self-reported awareness and understanding on institutional regulations on AD: Study results indicated that there was no difference in students' understanding of institutional regulations on AD and their perceived effectiveness whether they hold information about them or not (p-value 0.241). Similarly, the students who had awareness about regulations on AD were equally involved in cheating as compared to students who do not have information about it (p-value 0.391; see Figure 2).

Table 1: **Students' sources of information on institutional regulations on AD as well as their usefulness**

Sources of information	Not Useful	Average Useful	Highly Useful	Total	No Response	Mean (SD)
First year orientation Program	43(34.4)	66(52.8)	14(11.2)	123(98.4)	2(1.6)	1.76±0.64
Friends and classmates	14(11.2)	59(47.2)	51(40.8)	124(99.2)	1(0.8)	2.30±0.66
Students handbook	45(36)	45(36)	34(27.2)	124(99.2)	1(0.8)	1.91±0.80
Course outline	31(24.8)	55(44)	36(28.8)	122(97.6)	3(2.4)	2.04±0.74
Discussion with lecturer	22(17.6)	57(45.6)	45(36)	124(99.2)	1(0.8)	2.19±0.71
Supporting staff (e.g. technicians national service personnel)	28(22.4)	56(44.8)	36(28.8)	120(96)	5(4)	2.07±0.73
Other (please specify)	16(12.8)	14(11.2)	6(4.8)	36(28.8)	89(71.2)	1.72±0.74

Table 2: Students' self-reported involvement in different academically dishonest practices

Scenarios	Never	Once	More than Once	Not Applicable	Total	No Response	Mean (SD)
Copied from classmate with his/her permission	32(25.6)	21(16.8)	64(51.2)	4(3.2)	121(96.8)	4(3.2)	2.33±0.91
Copied from classmate without his/her permission	79(63.2)	14(11.2)	26(20.8)	5(4)	124(99.2)	1(0.8)	1.65±0.95
Did not participate in practical/group work, leaving it only for other group members	60(48)	23(18.4)	33(26.4)	8(6.4)	124(99.2)	1(0.8)	1.91±1.00
Allowed another student to copy your assignment	10(8)	20(16)	89(71.2)	2(1.6)	121(96.8)	4(3.2)	2.69±0.65
Used electronic devices to get answers during an exam or class test	103(82.4)	9(7.2)	7(5.6)	4(3.2)	123(98.4)	2(1.6)	1.28±0.72
Helped someone cheat on a test or exam	25(20)	12(9.6)	87(69.6)	1(0.8)			2.51±0.82
whispered or signaled answers to colleague during an exam or test	16(12.8)	16 (12.8)	86(68.8)	3(2.4)	121(96.8)	4(3.2)	2.63±0.74
used answer written in your palm, inside your cap, revision note in an exam or test	87(69.6)	14(11.2)	19(15.2)	2(1.6)	122(97.6)	3(2.4)	1.48±0.82
Continue to write in exam or test after the allotted time was over and you were asked to stop work	36(28.8)	25(20)	62(49.6)	1(0.8)	124(99.2)	1(0.8)	2.23±0.88
Solved questions a colleague gave you and same thing came in an exam	50(40)	23(18.4)	42(33.6)	8(6.4)	123(98.4)	2(1.6)	2.07±1.01
Asked a lecturer to give special consideration when marking your exams or test	74(59.2)	15(12)	30(24)	5(4)	124(99.2)	1(0.8)	0.97
In any other way cheated on exam or test	86(68.8)	12(9.6)	19(15.2)	4(3.2)	121(96.8)	4(3.2)	1.51±0.88

Table 3: Comparison between students' perceived seriousness and involvement in different academically dishonest practices

Scenarios	Seriousness	Never	Once	More than Once	Not Applicable	p-value
Copied from classmate with his/her permission	Not Serious Cheating	25(25.50%)	19(19.40%)	54(55.10%)		0.877
	Serious Cheating	5(29.40%)	2(11.80%)	10(58.80%)		
Copied from classmate without his/her permission	Not Serious Cheating	22(46.80%)	7(14.90%)	17(36.20%)	1(2.10%)	0.002*
	Serious Cheating	52(78.80%)	6(9.10%)	7(10.60%)	1(1.50%)	
Did not participate in practical/group work, leaving it only for other group members	Not Serious Cheating	28(38.90%)	18(25.00%)	22(30.60%)	4(5.60%)	0.047*
	Serious Cheating	23(67.60%)	5(14.70%)	6(17.60%)	0(0.00%)	
Allowed another student to copy your assignment	Not Serious Cheating	4(4.40%)	16(17.60%)	70(76.90%)	1(1.10%)	0.005*
	Serious Cheating	5(27.80%)	1(5.60%)	11(61.10%)	1(5.60%)	
Used electronic devices to get answers during an exam or class test	Not Serious Cheating	13(65.00%)	3(15.00%)	4(20.00%)	0(0.00%)	0.011*
	Serious Cheating	84(90.30%)	5(5.40%)	3(3.20%)	1(1.10%)	
Helped someone cheat on a test or exam	Not Serious Cheating	14(15.90%)	9(10.20%)	65(73.90%)		0.082
	Serious Cheating	9(36.00%)	1(4.00%)	15(60.00%)		
Used answer written in your palm, inside your cap, revision note in an exam or test	Not Serious Cheating	9(50.00%)	2(11.10%)	6(33.30%)	1(5.60%)	0.006*
	Serious Cheating	74(77.90%)	12(12.60%)	9(9.50%)	0(0.00%)	
Continue to write in exam or test after the allotted time was over and you were asked to stop work	Not Serious Cheating	26(25.50%)	22(21.60%)	54(52.90%)		0.337
	Serious Cheating	3(50.00%)	0(0.00%)	3(50.00%)		
Solved questions a colleague gave you and same thing came in an exam	Not Serious Cheating	11(26.20%)	9(21.40%)	20(47.60%)	2(4.80%)	0.059
	Serious Cheating	17(56.70%)	4(13.30%)	8(26.70%)	1(3.30%)	
Asked a lecturer to give special consideration when marking your exams or test	Not Serious Cheating	33(54.10%)	8(13.10%)	18(29.50%)	2(3.30%)	0.926
	Serious cheating	9(56.30%)	2(12.50%)	4(25.00%)	1(6.30%)	
In any other way cheated on exam or test	Not Serious Cheating	13(52.00%)	4(16.00%)	8(32.00%)	0(0.00%)	0.015
	Serious Cheating	26(76.50%)	0(0.00%)	6(17.60%)	2(5.90%)	

Figure 1: Students' self-reported understanding and perceived effectiveness of institutional policies on AD and their perception about lecturer's understanding & support

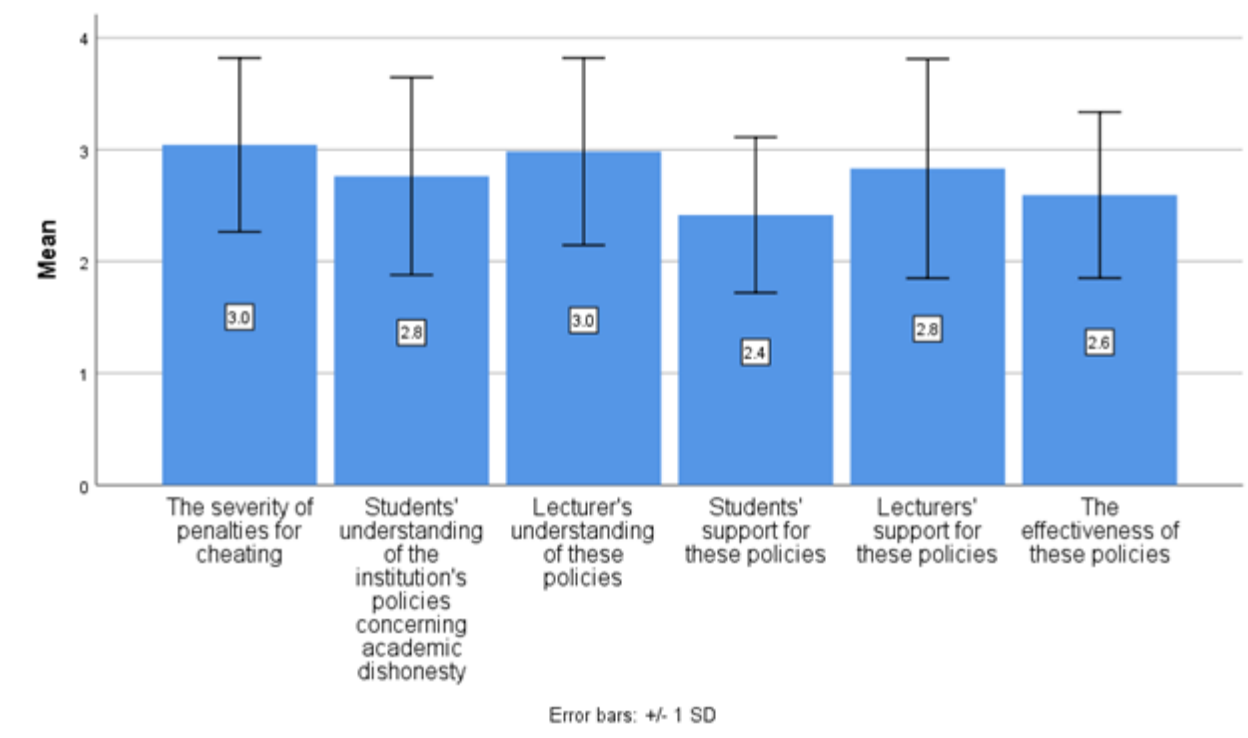
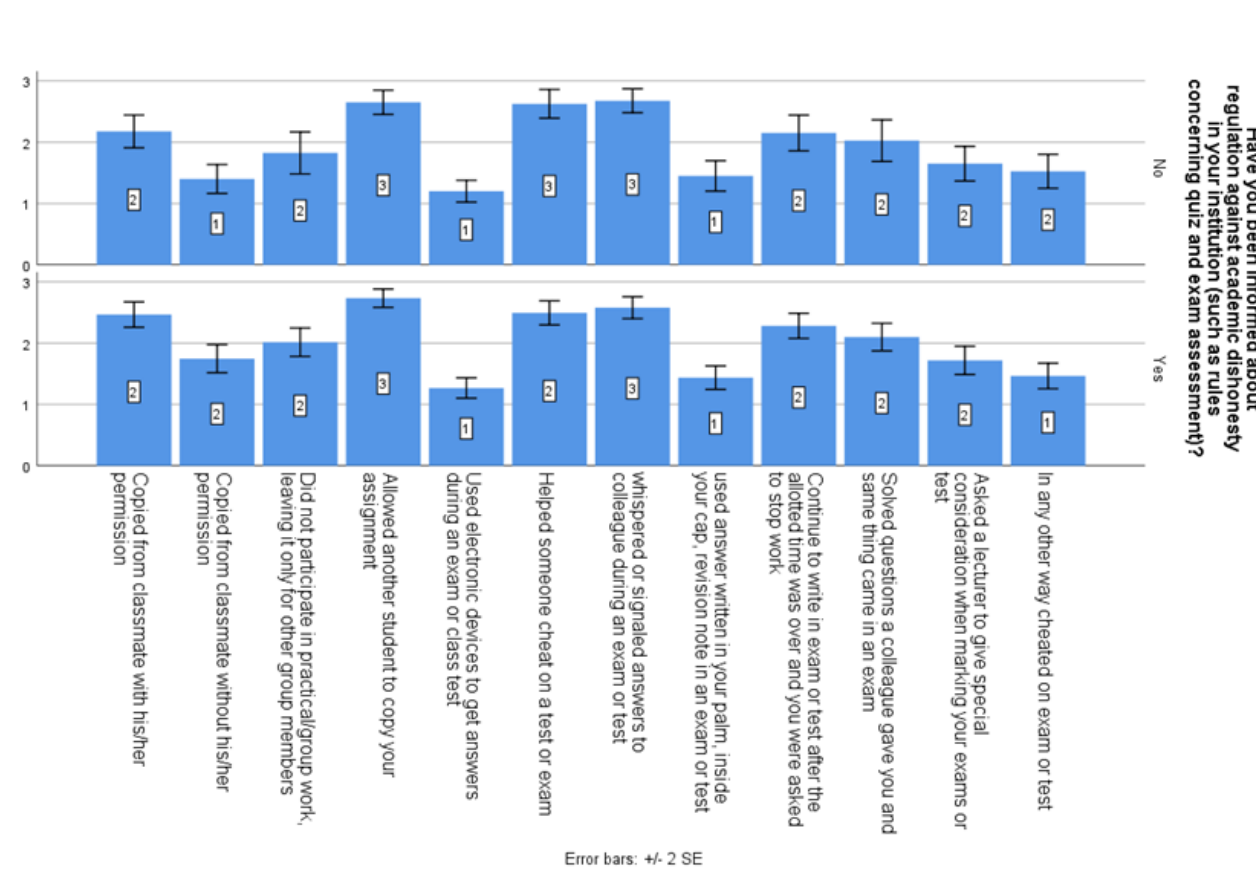


Figure 2: Comparison between students' self-reported awareness and involvement on institutional regulations on AD



Discussion. Dishonesty can be set up in all facets of human interaction and is recognized to be rampant in medical institutions also (Musau, 2017). The results of this study show that medical students get involved in different academically dishonest behaviours regardless of their awareness about institutional regulations on said matter. More than half of the participants were aware about rules on AD but very few understood and supported those regulations as compared to their perception about lecturers' understanding and support. In their view, the institutional policies have not been effective in dealing with unethical behaviours in academics. The most likely reason for this is, that students are minimally involved in developing these rules and will not approve as they are a hindrance to achieve high grades through academic misconduct (Bayaa Martin Saana et al., 2016). This study was conducted in a private medical college of Lahore where 150 students are enrolled every year with diverse educational backgrounds. A traditional curriculum is being taught as approved by University of Health sciences with no formal teaching on ethics right from the initial years except behavioural sciences which is a part of syllabus in third year only. The awareness and understanding about acts of academic misconduct should be inculcated in students in earlier years as a part of formal ethics curriculum (Ghias et al., 2014).

The identification of friends and classmates as the most beneficial means of AD related information can be due to the fact that students share their experiences about their involvement in academic misconduct and consequences faced by them. On the contrary, freshman orientation programme was found to be most effective source as such platforms are usually patronized by students themselves (Thomas & Zyl, 2014).

88% of students admitted to witnessing a colleague involving in a dishonest practice and on average, no one reported it. Similar findings were recorded in a study conducted in Karachi where only a few medical students admitted to report the cheating and majority did not, due to demands on loyalty and fear of consequences. Likewise, more than 90% of optometry students in a survey in Portugal did not report acts of academic misconduct (Ghias et al., 2014; Marques & MacEdo, 2015). The most important contributing factor to cheating in our study was high academic workload besides family pressures and achieving good grades. In two cross-sectional studies from Saudi Arabia and India, it was found that that majority of students justified their act of cheating for reasons of helping friends, getting good grades and passing exam (Abdulghani et al., 2018; Asokan et al., 2013) and medical education is not an exception. Until recently, few efforts have been made to study the dishonest behavior in Middle-Eastern universities. This study examined the prevalence and predisposing factors of cheating among medical students in Saudi Arabia and suggests suitable

preventive measures. A cross-sectional survey-based study was conducted at a government medical college during the 2014-2015 academic year. The response rate was 58.5% (421/720). Private medical college induct students of different educational backgrounds and they try to strive hard to show high level marks and best solutions to compete with the public sector counterparts. Pupils are set under pressure due to high academic workload and expectations from family to execute due to enormous quantity of money they are investing on them.

The topmost acts of academic misconduct in which participants of our survey were found to be involved were copying from a friend with his/her permission, helping someone cheat in a test followed by signaling answers to a colleague during exam. The disturbing part was that they didn't believe these human actions, as serious matters of wrongdoing. The same findings were reported in Croatian medical students in a multi-campus study (Taradi et al., 2012) perceived seriousness of cheating, perceptions on integrity atmosphere, cheating behaviour of peers and on willingness to report misconduct. Participants were third-year (preclinical). 50-60% of medical students taking part in a study in India considered copying from others and getting expert help in practical exam, a norm and accepted human activity in medical institutions (Babu et al., 2011).

On the contrary, marking proxy for friends in class and writing fake histories in medical wards was found in two third of students in another study in Karachi. Few students also accepted to forge teacher's signature (Hafeez et al., 2013). Pakistan is an Islamic eastern country with a traditional culture, valuing family rules and helping each other during learning tasks is encouraged in children. Also, as English is not the foremost language of Pakistani Medical students so usually they discover it hard to use it in written communication and may prefer the gentle path of copying (Shukr & Roff, 2014; Yekta et al., 2010) out of 47 behaviors. Students thought that fellow students were doing dishonest behaviors far more frequently than they themselves were. The commonest dishonest behaviors admitted were proxy attendance (308, 64%).

We identified that there is a strong association between students' perceived seriousness of a certain act of AD and their involvement in them. Copying from a colleague without his/her permission and using electronic gadgets to find answers in exam were considered serious cheating and very few students were involved in them. Whereas copying with permission was not a serious offense and students found no harm in frequently committing this act. Bayaa Martin Saana et al. (2016) in a study in Ghana supports this idea where participants believed that cheating with mutual consent does not make it a crime. No difference was found between involvement score of students

who have awareness about regulations on AD as compared to students who do not have information about it. This was consistent to the results reported in a study where more than 70% of students had an awareness about plagiarism but still were involved in it (Ramzan et al., 2012).

Recommendations: Academic integrity is indispensable in preparing medical students to be ethical and purposeful professionals. To prevent students from involving in dishonest behaviours and changing their attitudes, the institution should create a culture that promotes professionalism and aim towards strengthening ethical values like honesty. Students should be exposed to moral issues throughout the 5 year MBBS course to reflect upon, identify their misconceptions and develop moral reasoning (Shukr & Roff, 2014) out of 47 behaviors. Students thought that fellow students were doing dishonest behaviors far more frequently than they themselves were. The commonest dishonest behaviors admitted were proxy attendance (308, 64%). Also, strict disciplinary actions should be taken against the offenders. Faculty should be aware of their responsibility to expose students to good role modeling that will help them in becoming ethically competent professionals (Cruess et al., 2008).

Limitations: Our study has few limitations like the sample size is relatively small, thus findings cannot be generalized. Also, this study was conducted in one private medical college and the responses may not apply to other private and public colleges. Students may not have been fully honest in replying to sensitive questions due to fear of potential disclosure.

Way Forward: Further research in this area is required with a representative sample size and should involve both private and public sector medical colleges. Also, more emphasis should be given on maintaining the confidentiality of participants to limit response bias.

Conclusion. AD is a complex issue that is prevalent in medical institutions worldwide. Our study revealed that majority of students are involved in academic dishonest behaviours despite having awareness of institutional regulations on AD, and have low understanding and support for these rules. The main influencing factors were high academic workload and family pressures. Copying from a colleague with consent was considered acceptable and a norm in medical institution.

Declaration of interest:

The authors report no declarations of interest.

Author's Contribution:

- Fatima Aslam: Conception and design of the work; the acquisition, analysis, & interpretation of data from the work
- Usman Mahboob: Critical Review & final approval of the version to be published
- Qundeel Zahra: Drafting the work & revising it
- critically for important intellectual content

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