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Academic Misconduct Among Medical Students; A Multiple College Study

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ABSTRACT

Objective: To determine the frequency of academic misconduct among students of medical colleges affiliated with University of Health Sciences in Punjab.

Study Design: Cross-sectional analytical study.

Place and Duration of Study: Different Public and Private sector medical colleges in Punjab affiliated with University of Health Sciences, from Jan 2018 to Dec 2018.

Methodology: Multistage stratified random sampling technique was used to select the study subjects. Information was collected on a self-administered questionnaire containing the common trends of academic misconducts. Data was entered and analyzed through SPSS version 22.

Results: Total 2000 students were enrolled in the study with equal participation from public and private sector. Mean age of the respondents was 21.82±1.82 years. Overall frequency of academic misconduct was high i.e., 1928(96.4%). The most frequent academic misconduct was asking friend to mark the proxy (84.45%) and the least frequent reported misconduct was using cell phone for exchange of answers (14.25%). The difference of academic misconduct among students of public and private sector medical college students was significant (p-<0.001). The academic misconduct was also significantly different (p=0.005) among students from rural and urban residential backgrounds.

Conclusion: Academic misconduct was found a serious problem among medical students studying in public and private sector medical colleges of Punjab, Pakistan.

Key words: Academic misconduct, Medical colleges, Students.

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INTRODUCTION

Learning to become a medical graduate requires not only the development of medical knowledge and practical skills, but also high ethical and moral standards including academic integrity.[1] Academic misconduct is defined as an intentional act of cheating or deceit while fulfilling academic requirements.[2] According to trost (2009) academic misconduct is synonymous with cheating. On the other hand, the new Oxford American Dictionary (2005) defines cheating as to act dishonestly or unfairly in order to gain an advantage, especially in a game or examination. Cheating decreases the validity of assessment resulting in a decreased interpretability of grades and may lead to unfair advancing of students, who lack required skills and abilities.[3] Cheating in medical schools is a ubiquitous phenomenon which has plagued medical schools since long. Feudtner *et al.* found that 62% of medical student believed that during the course of their clerkship their ethical principles had been eroded.[4] Behavior and peer pressure are important underlying factorsregardingcheating among medical students. Anxiety and depression also increase the likelihood of cheating. Students with lower grades report more cheatings as compared with students of higher grades. Literature reveals thatlack of character, lower grades, desire to excel, parental and peer pressure are all associated to higher rates of academic misconducts. The use of mobile phones for cheating purpose in examination hasfurther deteriorated the situation. Academic misconduct and integrity are the key characters sought in a doctor, but with cheating there is potential of producing incompetent physicians while our profession, in addition to knowledge and skills demands students to demonstrate high ethical and moral standards.[5]

A study conducted by Kamran Hafeez *et al.* in medical colleges of Karachi revealed that 39% of students witnessed some form of cheating among their colleagues in medical school, 4.7% admitted themselves to be involved in cheating and 55.1% students accepted that they had cheated at least once, while 6.9% accepted using mobile phones for exchange

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of answers during theory exams. In same study 85.7% students accepted that they mark proxy for their friends and 85.03% also ask their friends to mark proxy for them. It also revealed that 44.02% students rotating in wards wrote fake histories, 28.8% admitted writing fake examination findings without actually performing it and 16.9% accepted that they have forged teacher signature. During OSCE/OSPE 83.6% students were involved in telling about questions on Objectively Structured Clinical Examination (OSCE) stations to their friends and 18.2% accepted that they tried to inquire answers from teachers during OSCE.[6] In an Indian study it was revealed that during a theory exam, 74% students have copied from their friends while 49% from others record books and 54% of them have falsely documented clinical findings.[2,7] In the same study 5% students confessed to have influenced the teacher by unfair means to get more marks.

Medical students in Pakistan go through a rigorous selection process and only a handful of brilliant minds can make it to a medical college. Even then the standard of medical education in our country is deteriorating. This study was designed to determine the frequency of academic dishonesty among medical students so that the remedial action is taken and quality physicians can be produced who can practice high standards of professionalism and ethics.

Use of unauthorized assistance by the students with intent to deceive their instructor or other such person who may be assigned to evaluate the students work in meeting course and degree requirements. It was done through cheating, proxy marking, taking undue favor (safarish), writing fake histories and examination findings, forging signature, copying assignments and asking OSCE/OSPEquestions during examination. Presence of any one or all of the above trends was considered as misconduct.

METHODOLOGY

The cross-sectional analytical study was conducted at different Public and Private sector medical colleges in Punjab, recognized by Pakistan Medical & Dental Council (PMDC) and attached with University of Health Sciences (UHS), Lahore from January 2018 to December 2018 after taking the ethical approval from Institutional Ethical Review Committee (No. 614/ DME/QAMC, Bahawalpur dated 03-10-2019) and students were asked to fill the required questionnaire voluntarily after taking the informed consent. Sample size calculated at 95% level of confi-dence, 1% required precision and 4.7%,[6] anticipated population proportion was 1721. However, to increase the validity of study it was taken as 2000.

Inclusion Criteria: Students regardless of gender between 18-25 years age who had taken the university examination at least one time i.e. .2nd, 3rd, 4th and final year M.B.B.S. students were inlcuded.

Exclusion Criteria: Non-willing students were excluded.

Multistage stratified random sampling technique was used to select the study subjects. Target population was 2nd year 3rd year, 4th and final year students in public and private sector medical colleges of Punjab. There are total 31 medical colleges in Punjab, 15 in public sector and 16 in private sector. In the first stage 1/3 (33%) of the medical colleges both from public and private sector (05 from each sector) were selected by simple random sampling. In the 2nd stage as per calculated sample size of 2000 equal number of students were selected from public and private sector. (1000 from each sector equally divided in 5 sampled medical colleges of each sector). So, 200 students from each sampled medical college were selected by dividing the number equally in all classes under study, i.e. 50 from each class on proportionate grounds according to female/male ratio in the class. (35 females and 15 males from each class in public sector medical college as per usual observed Female/Male ratio of 70:30 in these colleges and 30 female and 20 male from each class in private sector medical college as per usually observed Female/Male ratio of 60:40 in private sector medical college, by non-probability consecutive sampling after prior permission from head of the institution. Information was collected on a self-administered questionnaire (validated through pilot study) containing the common trends of academic misconducts. The questionnaire comprising of 2 parts. First part of the questionnaire contains general information regarding their demographics and year of study, second part consist of survey questions as shown in annexure A assessing the behavior of the students regarding academic misconduct (cheating, proxy marking, taking undue favor(safarish), writing fake histories and examination findings, forging signature, copying assignments and asking OSCE/OSPE questions during examination).Data was entered and analyzed through SPSS version 22. Mean and standard deviation was calculated for quantitative variable in the study like age. Frequencies and percentages of academic misconduct and its trends were calculated. Effect modifiers were controlled

through stratification during data analysis. Overall difference in frequencies of academic misconduct was compared by using chi square test and *p*-value <0.05 was taken as significant.

RESULTS

Out of 2000 medical students enrolled in the study, 700(35%) were male while 1300(65%) were female. Area wise distribution of the respondents showed that 466(23.3%) were rural and 1534(76.6%) urban. However, number of medical students enrolled in the study form public and private sector were equal. Mean age of the study participants was 21.71±1.57 years with age range of 18-25 years. Out of total 1927 medical students involved in academic misconduct, 948(94.8%) belonged to public sector medical colleges while 979(97.9%) from private sector medical colleges. Significant difference was noted between 02 sectors (*p*=<0.001). Students from private sector were more involved in academic misconduct than public sector medical students.

Overall frequency of misconduct among medical students was very high in our study i.e. 1927(96.4%) were engaged in at least one of the academic misconducts. The most frequently reported type of academic misconduct in our study was asking friends to mark their attendance (84.45%) while the least frequent misconduct was using call phone for exchange of answers during theory examination and using personal references (taking undue favor) in viva voce/practical exam each 14.25%. Percentages of other misconduct practices in our study were. marking proxy for the friend 82.15%, making themselves busy in playing games or messaging on cell phones during class 73.6%, and copying assignments from their seniors and class mates, 67.7%. The frequency of students involved in forging teacher's signatures was 22%, 26.33% wrote fake histories and 35.66% wrote fake examination findings without performing the examination. During training program or class test 79.9% of medical students admitted cheating while the same practice during any theory examination was found among 73.9% of students. 21.65% medical students wrote answers on question paper during OSPE/OSCE examination while 77.2% told those questions to the friends which were asked during first shifts of OSPE/OSCE.

Frequency of academic misconduct found in our study between the genders, 95.7% in males (670) and 96.7% in females (257) was not significant (p=0.266). However, the distribution regarding types of misconduct practices among two groups, only one practice i.e. Telling friends questions which were asked during 1st shift of OSPE/ OSCE" was found without any significant difference between two groups (*p*= 0.789) while in all other types of misconduct practices significant differences were observed between two Genders (Table-III).

Table-I: Academic Misconduct Practices Among Respondents (n=2000)

Practices	Frequency	Percentage
Making proxy for the friends.	1643	82.15
Asking friends to make their attendance.	1684	84.45
Making themselves busy in gamming or messaging on cell phone during class.	1472	73.6
Copying assignment from their seniors/classmates	1354	67.7
Forging a teacher signature.	440	22
Writing fake histories for assignments.	395	26.33
Writing fake exam. Findings without performing it.	535	35.66
Cheating during training program or class test.	1594	79.7
Cheating during any theory exam.	1479	73.95
Using cell phone for exchange of answers during theory exam.	285	14.25
Writing answers on question paper during OSCE/OSPE.	433	21.65
Telling friends questions which were asked during 1st shift of OSCE/OSPE.	1544	77.2
Using personal references(safarish) in viva voce/practical exam.	285	14.25

Table-II: Misconduct Status Among Public Sector Vs Private Sector Medical Student (n=2000)

Sectors	Status of Misconduct		*p*-value
	Yes	No	
Public	948(49.2%)	52(71.2%)	<0.001
Private	979(50.8%)	21(28.8%)	

Table-III:Misconduct Status Among Male & Female Medical Students (n=2000)

Sectors	Status of Misconduct		*p*-value
	Yes	No	
Male	670(34.8%)	30(41.1%)	0.266
Female	1257(65.2%)	43(58.9%)	

Distribution of academic misconduct among those with rural and urban back ground medical students was revealed to be rural 1468(95.7%) and urban 459(98.5%) with a significant difference (*p*= 0.005) (Table-IV). Urban medical students were more involved in academic dishonesty than their rural counterparts.

Table-IV: Misconduct Status Among Rural & Urban Medical Students (n=2000)

Sectors	Status of Misconduct		*p*-value
	Yes	No	
Urban	1468(76.2%)	66(90.4%)	0.005
Rural	459(23.8%)	07(09.6%)	

Analysis of misconduct among different classes showed that 95.8% in second year medical students, 94.4% in third years, 97.6% in fourth year and Final year students. The frequencies of misconduct were found significantly different among different classes of medical students in our study (p= 0.016) (Table-V).

Table-V: Class Wise Distribution Of Misconduct Status(n=2000)

Sectors	Status of Misconduct		*p*-value
	Yes	No	
2nd Year	479(24.9%)	21(28.9%)	0.016
3rd Year	472(24.5%)	28(38.3%)	
4th Year	488(25.3%)	12(16.4%)	
5th Year	488(25.3%)	12(16.4%)	

Note: *For Question number 6 and 7 the n =1500, Rural =344, Urban =1156 (as these questions were pertaining to clinical classes)* X^2 *=13.663,* X^2 *=1.238,* X^2 *=7.97,* X^2 *=10.279*

DISCUSSION

Thiscross-sectional analytical study was conducted to find out the frequency of academic misconduct among public and private sector medical students of Punjab.The Mean age of the respondents in our study was 21.71±1.51 with age range of 18-25 years. Overall percentage of academic misconduct among medical students in our study was very high i.e. 96.4% which is consistent with the study done by Hrabak *et al*. in which 94% medical students were involved in cheating.[7] Similar findings were reveled in a multicenter studies. [10,11] Study conducted by Dyrbe LN *et al*. revealed that 23% students admitted cheating in medical schools.[12] Hofmann *et al*. reported that 27.4% medical students had engaged in cheating or dishonest behavior.[13] Results of a survey conducted in the USA among medical students were very much inconsistent with the result of our study where only 4.7% students admitted to cheating.The similar findings opposite to our study results were also noted in another study by Sivagnanam *et al*. where approximately only 5% of 2nd year medical students admitted cheating in medical school.[14] Sierls *et al*. found the frequency of misconduct among medical students and found that 87.6% students cheated at least once in college. Study done in Swedish university revealed that 75% of the respondents in the study were engaged at least in one of the dishonest behavior.[15] From the result of our study which are very much consistent with the other studies it is clearly observed that majority of the medical students admitted cheating and are involved in academic misconduct on at least one occasion anytime throughout their medical education, which is a serious concern.As far as socio demographic variables of respondents and presence of academic misconduct is concerned, our study showed no considerable difference between two gender groups (p=0.266) which is similar to the perevious study findings noted by Taradi *et al*.[9] Regarding residential back ground of medical students, academic misconduct was distributed among rural and urban participant with a significant difference between two in our study. This finding is opposite to the findings of Taradi *et al*.in which no significant difference was noted between two groups.[9]

The distribution of academic misconduct among different classes of medical students showed significant difference in frequencies of misconduct among different classes (p=0.016). Similar results were noted in Crotian study where fifth year students reported significantly greater engagement as compared to their younger peers.[8] The report of Ng *et al*.[16] also revealed that higher class students being more involved in academic dishonesty. Most common practice of academic misconduct in our study was asking friends to mark their attendance (84.45%) which is consistent with the findings of a study conducted by Hafeez *et al*.in which 85.03% medical students asked their friends to make proxy for them.[6] Second most frequent misconduct practice found in our study was marking proxy for the friends (82.15%). These results were in line with the results of study by Mortez HS *et al*. where most frequent reported type of academic disintegrity found was impersonating an absent student in a class (93%).[17] Cheating during any theory examination and "making themselves busy in gamming or messaging on cell phone during class were the common misconduct practices found in our study, 73.95% and 73.6% respectively. Similar results were noted in study conducted by Babu TAin which 74% students had copied from their friends during theory examination.[2]

The frequency of Copying assignment from their seniors/class mates in our study was 67.7% which is comparable with findings of Hafeez K *et al*.in which 49% medical students were copying assignment from their seniors/class mates.[6] However the findings ofGhias *et al*. were somewhat lower than our study findings.[3]

Least frequent practices of misconduct admitted by the participants in our study were using cell phone for exchange of answers during theory examination and using personal references(safarish) in viva voce/practical exam, each 14.25%. Now a day's access to cell phone is easy and students are expert in messaging a text even without seeing the screen. This easy access to cell phone has contributed to using a cell phone for exchange of answers during theory and OSPE/OSCE examination. In a study done by Hafeez k *et al*. among medical students in Karachi Pakistan 6.9% students accepted the use of mobile phones for exchange of answers during the examination which are somewhat similar to our study.[6]

Medical professionals believed as cream of the nation have to deal with human life. The involvement of majority of medical students in misconduct practices is very alarming as whatever they learn during their college life they have to practice in their future professional life. It is the need of the time that the regulatory authorities should ensure the development and implementation of policies in this regard so that the health system and the future of the nation should be ensured in safe hands.[17-20]

RECOMMENDATION

- To optimize medical practice, effective policies and interventions is necessary to control the misconduct practices among future doctors.
- More resources should be devoted to this issue and develop mechanism for managing and curtailing the level of misconduct.
- Policies should be framed and implemented at national, institutional and departmental level.
- Faculty and administrators should be encouraged to adopt zero tolerance towards cheating and nourishing a culture of intolerance towards dishonesty among students should be part of ethos of every medical college.
- Morals and ethics should be encouraged among politicians, religious leaders, industrialists and society as a whole because their decline seems to be contributing factor to the academic dishonesty which is eroding into every depths of our medical educational system.
- Faculties in the medical institutions should provide support to the medical students in the form of mentor.
- Awareness should be created among faculties and medical students regarding what is considered acceptable professional practice in the particular context.

CONCLUSION

Academic misconduct was found a serious problem among medical students both in public and private sector medical colleges. This is an alarming situation which predicts the non-professionalism and misconduct among future doctors as well as misconduct practices among doctors presently working in the institutions and community.

Conflict of Interest: None.

Author's Contribution

Following authors have made substantial contributions to the manuscript as under:

MAS: & SF: & WH: Study design, concept, drafting the manuscript, data interpretation, critical review, approval of the final version to be published.

SB & AAZ & HA: Data acquisition, data analysis, critical review, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated & resolved.

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