

Assessment of knowledge, Attitude and Practice of Plagiarism Among Postgraduate and Undergraduate Medical Students

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ABSTRACT

Background: Scientific misconduct is a key issue in research these days and plagiarism is common practice irrespective of its awareness and consequences. Plagiarism is a theft of others ideas and intellectual property. We aimed at assessing the level of knowledge and practices

regarding plagiarism in our postgraduate and undergraduate medical students.

Material and Methods: A cross sectional study was conducted at Pakistan Institute of Medical Sciences, (PIMS) a constituent health facility under SZABMU, Islamabad. A total of 100 postgraduate and undergraduate students were enrolled in a period of 6 months from October 2018 to January 2019. Primary outcome measure was knowledge of plagiarism and routine practices of research and writing of the students. Data was analyzed in SPSS software.

Results: Females were slightly greater in this study, both PG and UG level students were almost equal in numbers. It was noticed that 16.0% students had no knowledge regarding plagiarism. Similarly, one third (32.0%) were continuously practicing plagiarism as they felt that their peers also do so. When demographic and educational background was analyzed according to plagiarism knowledge, there was no statistical differences observed.

Conclusion: Knowledge of plagiarism is not up to mark in medical students. Despite their knowledge regarding plagiarism, still one third were found confessing to continue its practice.

Keywords: Plagiarism, Scientific misconduct, Intellectual property, Medical students

INTRODUCTION

Professional work in the field of biomedical requires honesty to the profession, great commitment and devotion. In this modern era the research is needed to excel in the profession as well as for patients benefit.¹ According to Robert Merton, an ideal quality of a scientist is to have a passion for the truth. Because it is necessary not only for patients benefit in quality care work

but also for a good research work.

Word plagiarism is obtained from latin word "plagiarus", which means kidnapping clearly defined as practice of other ideas and text without acknowledging them and considered as own text.² Research misconduct usually includes fabrication, falsification, plagiarism, and other unethical behavior in professional medical research. Out of these, plagiarism is most commonly

practiced now days, especially for those whose first language is not English.

There are many factors contributing in pressurizing the researchers to do this misconduct like to increase the number of publications in less time to get promotions in their respective fields resulting in quantity of work but not the quality.³ In the past there were various journals magazines available which were the source of plagiarism and it was not so common at that time because it was not easy to plagiarize from them but now the vast electronic media has made it easily accessible for copying text from the pool of research work in just one click without

understanding the context and having background knowledge.^{4,5}

PG and UG students are early birds being researchers in the professional field that's the basic reason that without understanding the purpose of research work and being overburdened they

find shortcuts so do plagiarism unintentionally.

There were different studies conducted in the world mostly in India among different health

professionals but the clear evidence is still lacking.

The aim of study was to compare the knowledge as well as the attitude towards plagiarism in the UG and PG medical students in our institute so that we can analyze the level at which our

upcoming scientists are doing this practice. The findings of this research will also be shared with Research and Development

department of the University so that special seminars and awareness

sessions can be arranged with focus on negating and discouraging plagiarism practices.

MATERIAL AND METHODS

This cross-sectional questionnaire-based study was conducted in Pakistan Institute of Medical Sciences, (PIMS), SZABMU, Islamabad from October 2018 to January 2019 after obtaining approval from Institutional ethical committee. The study sample consisted of 100 participants

Including medical students and postgraduate residents in SZABMU, Islamabad. Using

non-probability based consecutive sampling a structured questionnaire was administered, which was designed according to international surveys conducted for assessing plagiarism worldwide. All the participants were told about the purpose of the study and that their participation would be voluntary. The questions contained demographic details and questions related to knowledge and attitude towards plagiarism, for which idea was taken from previous study Howard SJ and colleagues. All the responses to questions were marked as yes, no, and don't know, since the major focus was on the awareness and knowledge of respondents regarding plagiarism. The level

of knowledge was assessed in the form of poor knowledge, good knowledge, very good knowledge and excellent knowledge. These were defined as if a respondent could not answer more than or equals to one third of questions it was considered poor knowledge, if more than 75% questions were answered it was taken as good knowledge, between 75% and 90% very good knowledge and beyond 90% was considered as excellent knowledge of plagiarism. The data was entered in SPSS version 23.0. Categorical variables like student group, sex and plagiarism questions were analyzed as frequency and percentages.

RESULTS

Out of the total 100 participants, 54 (54.0%) were females while remaining 46 (46.0%) were male. Similarly, 48 (48.0%) participants were post graduate trainees of FCPS, MCPS and MS/MD while the

remaining 52 (52.0%) were undergraduate medical students. (Figure I)

In the postgraduate group, there were 10 students in 1st year, 13 in 2nd year, 13 in 3rd year whereas 12 PG students were from 4th year. Similarly, when distribution of year of education was assessed in undergraduate students, there were 12 students in 1st year, 6 in 2nd year, 8 in 3rd year and 14

students were in 4th year whereas 12 students were found in final and fifth year. (Figure II) Overall 16% of participate didn't answer one third questions regarding plagiarism so had poor knowledge, 41% had good knowledge, 29% were found to have very good knowledge and 14%

had excellent knowledge about plagiarism. (Table 1)

Most of respondents (79%) knew that plagiarism is using of others ideas and words as own work. Around two third (65%) thought plagiarism detection system would benefit students towards the fundamental principles of education. Only 42% knew, what plagiarism detection system was currently being used by assignment markers at their University. When attitude was assessed, it was noted that 44% respondents thought plagiarism is justifiable if important obligations or tasks to do. Almost three fourths (73%) respondents agreed that it is important to discuss issues of plagiarism and self-plagiarism. And 48% respondents thought that information of internet/web is

free for use the way I want. When questions regarding practice were asked, around 42% respondents said they are plagiarizing because not yet got caught. Around 60% said that using information from internet/web without proper citation is cheating whereas 45% said that self-plagiarism should not be punishable as plagiarism. Further details regarding knowledge can be seen in table 2.

Further analysis was done to unatify knowledge, attitude and practices according to postgraduate and undergraduate respondents. The knowledge of postgraduate students regarding plagiarism was better than the undergraduate students. Similarly, the attitude regarding plagiarism was almost similar between both postgraduate and undergraduate respondents. However, the practices of postgraduate respondents were not adequate towards plagiarism compared to undergraduate respondents. Further details regarding these comparisons can be found in table 3.

Selective analysis revealed that, there was no significant correlation at 5% level of significance between experience years and knowledge about plagiarism (p-value 0.306). There was also

no association between different groups of participants with level of knowledge regarding plagiarism (p-value 0.219). When assessed knowledge according to sex distribution again there was no significant association found (p-value, 0.365).

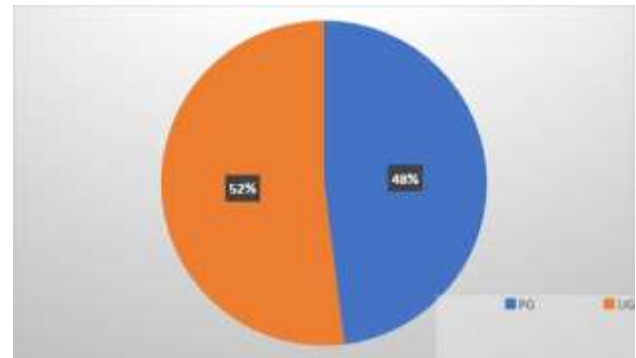


Figure 1: Distribution of PG and UG students in the study (n=100)

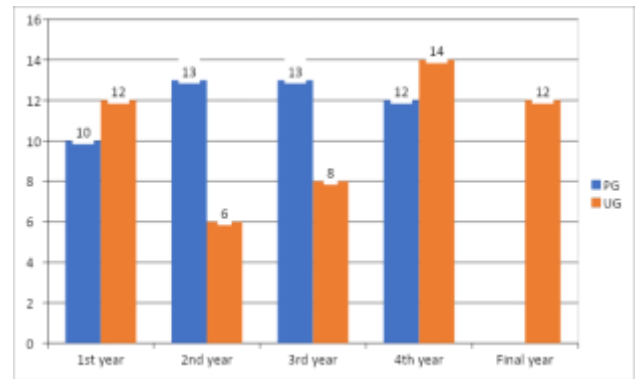


Figure 2: Distribution of students according to year of education (n=100)

Table 1: Overall distribution of level of knowledge regarding plagiarism

Level of knowledge	Number of participants	%age
Poor knowledge	16	16%
Good knowledge	41	41%
Very Good knowledge	29	29%
Excellent knowledge	14	14%

Table 2: Distribution of knowledge, attitude and practices regarding plagiarism (n=100)

	Responses n (%)		
	Yes	No	Don't know
Q1. Plagiarism is using the ideas and words of someone else as my own work without citing the original work	79 (79.0%)	18 (18.0%)	3 (21.0%)
Q3. Do you know what plagiarism detection system is currently being used by assignment markers at the University?	42 (42.0%)	43 (43.0%)	15 (15.0%)
Q4. Do you think this plagiarism detection system will benefit students towards the fundamental principles of education?	65 (65.0%)	21 (21.0%)	14 (14.0%)
Q5. I keep plagiarizing because I haven't been caught yet	42 (42.0%)	47 (47.0%)	11 (11.0%)
Q5. If I buy a paper from an Internet/Web site that sells such things, my Chance of being caught for plagiarism is small	32 (32.0%)	49 (49.0%)	19 (19.0%)
Q6. I work (study) in a plagiarism-free environment	21 (21.0%)	59 (59.0%)	20 (20.0%)
Q7. Plagiarism is justified if I currently have more important obligations or tasks to do	44 (44.0%)	46 (46.0%)	10 (10.0%)
Q8. In times of moral and ethical decline, it is important to discuss issue like plagiarism and self-plagiarism	73 (73.0%)	17 (17.0%)	10 (10.0%)
Q9. Plagiarized parts of a paper may be ignored if the paper is of great scientific value	44 (44.0%)	39 (39.0%)	17 (17.0%)
Q10. Since plagiarism is being taken by other too	32 (32.0%)	58 (58.0%)	10 (10.0%)
Q11. If one cannot write well in a foreign language (e.g., English), it is justified to copy parts of a similar paper already published in that language	40 (40.0%)	45 (45.0%)	15 (15.0%)
Q12. If use a substantial amount of information from the Internet/Web Without the author's permission for commercial purposes, I have Violated copyright law and can be used	51 (51.0%)	30 (30.0%)	19 (19.0%)
Q13. Information on the Internet/Web is free for me to use any way I want	48 (48.0%)	45 (45.0%)	7 (7.0%)
Q14. Using information from the Internet/Web without properly citing the source of the information is cheating	62 (62.0%)	31 (31.0%)	7 (7.0%)
Q15. Self-plagiarism should not be punishable as plagiarism	45 (45.0%)	25 (25.0%)	30 (30.0%)

Table 3: Distribution of responses regarding knowledge, attitude and practices about plagiarism between undergraduate and postgraduate respondents (n=100)

	Postgraduate (n=48) n (%)			Undergraduate (n=52) n (%)		
	Yes	No	Don't know	Yes	No	Don't know
KNOWLEDGE						
Q. Plagiarism is using the ideas and words of someone else as my own work without citing the original work	34 (70.8%)	13 (27.1%)	1 (2.1%)	45 (86.5%)	5 (9.6%)	2 (3.8%)
Q. Do you know what plagiarism detection system is currently being used by assignment markers at the University?	26 (54.2%)	18 (37.5%)	4 (8.3%)	16 (30.8%)	25 (48.1%)	11 (21.2%)
Q. Do you think this plagiarism detection system will benefit students towards the fundamental principles of education?	26 (54.2%)	16 (33.3%)	6 (12.5%)	39 (75.0%)	5 (9.6%)	8 (15.4%)
Q. Plagiarized parts of a paper may be ignored if the paper is of great scientific value	19 (39.6%)	18 (37.5%)	11 (22.9%)	25 (48.1%)	21 (40.4%)	6 (11.5%)
Q. If one cannot write well in a foreign language (e.g., English), it is justified to copy parts of a similar paper already published in that language	19 (39.6%)	26 (54.2%)	3 (6.2%)	21 (40.1%)	19 (36.5%)	12 (23.1%)
Q. If use a substantial amount of information from the Internet/Web Without the author's permission for commercial purposes, I have Violated copyright law and can be used	28 (58.3%)	14 (29.2%)	6 (12.5%)	23 (44.2%)	16 (30.8%)	13 (25.0%)
ATTITUDE						
Q. If I buy a paper from an Internet/Web site that sells such things, my Chance of being caught for plagiarism is small	19 (39.6%)	26 (54.2%)	3 (6.2%)	13 (25.0%)	23 (44.2%)	16 (30.8%)
Q. Plagiarism is justified if I currently have more important obligations or tasks to do	21 (43.8%)	23 (47.9%)	4 (8.3%)	23 (44.2%)	23 (44.2%)	6 (11.5%)
Q. In times of moral and ethical decline, it is important to discuss issue like plagiarism and self-plagiarism	37 (77.1%)	8 (16.7%)	3 (6.2%)	36 (69.2%)	9 (17.3%)	7 (13.5%)
Q. Since plagiarism is being taken by other too	17 (35.4%)	27 (56.2%)	4 (8.3%)	15 (28.8%)	31 (59.6%)	6 (11.5%)
Q. Information on the Internet/Web is free for me to use any way I want	21 (43.8%)	25 (52.1%)	2 (4.2%)	27 (51.9%)	20 (38.5%)	5 (9.6%)
PRACTICES						
Q. I keep plagiarizing because I haven't been caught yet	24 (50.0%)	19 (39.6%)	5 (10.4%)	18 (34.6%)	28 (53.8%)	6 (11.5%)
Q. I work (study) in a plagiarism-free environment	13 (27.1%)	26 (54.2%)	9 (18.8%)	8 (15.4%)	33 (63.5%)	11 (21.2%)
Q. Using information from the Internet Web without properly citing the source of the information is cheating	31 (64.6%)	16 (33.3%)	1 (2.1%)	31 (59.6%)	15 (28.8%)	6 (11.5%)
Q. Self-plagiarism should not be punishable as plagiarism	29 (60.4%)	8 (16.7%)	11 (22.9%)	16 (30.8%)	17 (32.7%)	19 (36.5%)

DISCUSSION

In recent years, scientific misconduct has become a focus of interest. However, on ground very few attempts have been made to evaluate the size of issue plagiarism or other misconduct in research. We conducted this study aiming at assessing knowledge and practices of medical students both PG and UG education level. This type of evidence could be then utilized to change policy of higher education level specially Pakistan Medical and Dental Council in order to

achieve higher level of research purity and integrity.

In this study male gender was slightly predominant whereas PG and UG level education was

found equally distributed. Effectual analytics and cross-sectional study showed that among 452 participants, 34.5% were male and 65.5% female which is similar to what we have observed in the current study.⁶ Another study from Iraq, reported that they included 70% medical students

and 30% nursing students in their exploration of scientific misconduct.⁷

In the present study almost 80% respondents had good to excellent knowledge of plagiarism and were well aware. One previous study showed that almost 90% of their respondents were aware of

meaning of plagiarism, whereas 20% were not aware of referencing criteria.^{6,8}

The current study findings suggest that a significant proportion of students is unaware of plagiarism and has no knowledge regarding it. Moreover, one third of our study population confessed that they use plagiarism and that they act in this manner as their other peers also do so. Similarly, they mentioned that as they have never been caught so they continue to violate and do this intellectual theft.

A study shows American undergraduate student who had cheated during written assignment range from 3-38%.⁸ Kushnour et al found that the frequency of various cheating behavior among medical student in USA was 4.7-87.6% while UK based study witnessed 61.9% of undergraduate student admitted having plagiarized from online sources.⁹ In our study almost 78% of participant said that they often or more than often used internet for journal sources and websites to aid university assignments.

A study shows majority of faculty members (77.8%) and PG students (62.7%) disagreed that they keep plagiarizing because they have not been caught yet (P=0.034). In our study 42% participants said that as they not caught yet so they cannot stop plagiarism. Nearly 56.7% of faculty member and 36.5% of postgraduate students disagreed that they are sometime tempted to

plagiarize because everyone else is doing it (P=0.007).¹⁰

In our study 32% participant confess they use plagiarism as others also use it. In a study student do not perceive self-plagiarism as being offensive. Nearly half of them agree self-plagiarism is

harmless and justified.

Another study reveals that 35% of student in UK and 47% in Bulgaria committed self-plagiarism at least once.¹⁰ Most of the study participant felt that it is important to discuss the issue such as plagiarism and self-plagiarism. In our study 73% of participants agreed that it is important to discuss issue of plagiarism and self-plagiarism. A study shows total mean score of the participant

knowledge of plagiarism was 5.94(SD=1.66) the maximum and minimum. Mean score of

knowledge belongs to professor (7.67) and medical student (5.21) respectively (P=0.0001).^{10,11}

In our study there was no significant correlation at 5% level of significance between study years and knowledge about plagiarism with P value 0.306. There were only 36.5% undergraduate students who had knowledge (very good and excellent) about plagiarism while in the second group (postgraduate) this percentage was exactly 50%. There was no association between different groups of participants (post graduate and medical students) with the level of knowledge regarding plagiarism with p-value, 0.219. Moreover, in this study there was no association between the level of knowledge regarding plagiarism and sex distribution of participants with p-value 0.365. These findings regarding similarity of knowledge among various demographic

categories have been witnessed by many previous studies as well.^{12,13}

There were few limitations of the study which were mainly related to a smaller sample size. Another, issue was related to student's attitude and practices as most of them had knowledge of plagiarism thus, copyright, however, they were still confused and variably stated copying as normal. Advantages of the study are numerous, as this is one of the very few attempts to assessed

scientific misconduct in terms of plagiarism in local as well as national level settings.

CONCLUSION

It is evident from our study that both postgraduate and undergraduate medical students have good level of knowledge regarding plagiarism, however, even those aware of it continue to practice this scientific misconduct. There is a need to highlight the importance of plagiarism in lectures, workshops. Moreover, implementation of strict rules and policy for the student in the curriculum should be done so that they have good knowledge for plagiarism before starting

research work.

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