
Original Article

Prevalence and patterns of research misconduct among medical college faculties

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Abstract:

Background: With availability of the internet in all hands, the information on any topic is widely available. It is easy to access and many journals are open access. Hence it is tempting to easily copy paste the material to save time and serves as short cut for various purpose.

Objective: To study prevalence and factors for research misconduct among medical college faculties

Methods: Cross sectional study was carried out in two medical colleges in 58 faculty members using self-administered questionnaire. Confidentiality was ensured. Questionnaire consisted of questions pertaining to self-declaration of committing research misconduct. Next part was related to their opinions on factors, action to be taken and prevention related to research misconduct.

Results: 68.9% knew what is plagiarism but only 8.6% knew types of plagiarism. Prevalence of research misconduct as faculty was 62.1%, (plagiarism=41.4%, fabrication=18.9%, falsification=1.7%). Prevalence of research misconduct as postgraduate was 91.4% (plagiarism=63.8%, fabrication=25.9% and falsification=1.7%). Lack of facilities and lack of time was the major response leading to research misconduct in 25.9% and 24.1% respectively. Most common action suggested was removal of published article and disciplinary warning by 37.9% of responses each. 8.6% of responses said that it is not possible to prevent research misconduct. Majority of responses were in favor of training followed by increasing awareness i.e. 56.9% and 51.7% respectively for prevention of plagiarism.

Conclusion: Commitment of research misconduct was very high in publications as faculty and still more in dissertations as postgraduates. Lack of awareness, time, facilities, resources were responsible factors. Training and increasing awareness were the suggested measures.

Key words: prevalence, patterns, plagiarism, faculty

Introduction:

The Medical Research Council of United Kingdom defines misconduct as “fabrication, falsification, plagiarism, or deception in proposing, carrying out or reporting results of research and deliberate, dangerous, or negligent deviations from accepted practice in carrying out research”.¹

In 1999, the Committee on Publication Ethics (COPE) defined plagiarism as “Plagiarism ranges from the unreferenced use of others’ published and unpublished ideas including research grant applications to submission under new authorship of a complex paper, sometimes in a different language. It may occur at any stage of planning, research, writing or publication; it applies to print and electronic versions.”^{2,3}

“Fabrication is defined as the invention of data or information; falsification is defined as the alteration of the observed result of a scientific experiment and plagiarism is defined as taking someone else’s work without attributing the source and claiming it to be one’s own.”⁴

It was found during a meta-analysis that the self-admitted cases of research misconduct anytime once were around 2%. They noticed that 14% of their colleagues were involved in research misconduct.⁵ In another study who surveyed 194 cases noted that research wrongdoing was 88% in the last two years. Among them 54% were found to have committed the research misconduct.⁶

Always a question is asked on how best we can deal with research misconduct? First line of defence is awareness among the journal editors, peer reviewers as well as readers. Not only they know what is plagiarism but also various of its types and at the same time how it can be detected. Another approach is training and re-training right from graduate and postgraduate levels to prevent the research misconduct.⁷

With availability of the internet in all hands, the information on any topic is widely available. It is easy to access and many journals are open access. Hence it is tempting to easily copy paste the material to save time and serves as short cut for various purpose. It is mandatory for postgraduates to complete dissertation for doctoral degree. There is also

publication pressure on the faculty for promotion. Factors leading to research misconduct are time constraints, lack of awareness, not trained, tendency to disregard the ethical principles, lack of facilities and resources, lack of legal actions. In the present study we attempted to study the prevalence, patterns, responsible factors, action to be taken and ways of prevention of research misconduct among medical college faculties

METHODS:

A cross sectional study was carried out. Two medical colleges in the Telangana state were selected conveniently. A pre designed, pre tested study questionnaire was prepared based on extensive review of literature. The study questionnaire was self-administered.

Institutional Ethics committee permission was obtained. 58 faculty after giving the informed consent from two medical colleges responded and returned the self-administered questionnaires.

The name of the faculty and the name of the medical college was not included in the study questionnaire. Thus, the confidentiality was ensured. All forms were collected simultaneously and mixed to avoid possibility of any breach of privacy.

The questionnaire consisted of questions pertaining to self-declaration of committing plagiarism, fabrication and falsification. Next part was related to their opinions on factors leading to research misconduct, action to be taken on those involved in research misconduct and how it can be prevented.

The data was analysed as proportions and cumulative proportions for multiple responses.

RESULTS:

Out of 58 study participants, 37 (63.8%) were males and 21 (36.2%) were females. The average age was 46.53 years with a range of 27-67 years. Majority of the study participants belonged to the age group of more than 46 years (36.2%) followed by 20 (34.5%) in the age group of 37-46 years. Majority of the females belonged to the age group of 27-36 years and majority of the males belonged to the age group of 37-46 years. One faculty did not respond on this question. Seven faculty belonged to Microbiology department followed by 6 each in Anatomy, Pathology, Physiology. 4 faculty belonged to Ophthalmology, Pharmacology, and 4 did not respond on this question. 3 belonged to Pediatrics department. 2 faculty were from ENT, Obstetrics and Gynecology, Orthopaedics, Psychiatry, Pulmonary Medicine, Dermatology, Community Medicine, and General Surgery. One faculty was from each Forensic Medicine, and General Medicine. Majority of the faculty were Professor i.e. 23 (39.7%) followed by Assistant Professor 19 (32.8%) and Associate Professor 11 (18.9%). One was post graduate and one was senior resident. The non-response rate was 2 (3.4%) in this case. Majority of the faculty 18 (31%) were having teaching experience of 0-5 years followed by 6-10 years in 13 (22.4%) cases each. Five (8.6%) were having teaching experience of 16-20 years, 1 (1.7%) was with 21-25 years of experience and six (10.3%)

with 26-30 years of experience. The nonresponse rate was 3.4% in this case. The mean of teaching experience was 11.08 years with a range of 0-30 years. Majority of the faculty were having 0-5 publications i.e. 31 (53.4%) followed by 6-10 publications i.e. 12 (20.7%). Seven faculty (12.1%) were found to have 11-15 publications. Two (3.4%) were having 16-20 publications and one was having 21-25 publications. The non-response rate was 5.2% in this case. The average number of publications were 6.71 with a range of 0-35. The median was 4 (N=55) with interquartile range of 7 (2-9).

The knowledge on what is plagiarism question was good and answered correctly by 40 (68.9%) of the faculty while 31.1% of them could not answer. But knowledge on types of plagiarism was very poor with only 8.6% of them were able to give correct answer. (Table 1)

One faculty has admitted that he/she has copy pasted the matter without credit while five have admitted the same partly. 17 faculty committed that they copy pasted the matter but gave credit. One has admitted the paraphrasing without credit. 11 have reported that they fabricated the methods and results section while only one admitted for falsification. (Table 2)

The overall prevalence of research misconduct as faculty was very high i.e. 62.1%. Prevalence of plagiarism was 41.4%, that of fabrication was 18.9% and that of falsification was 1.7% (Table 3)

As postgraduate thesis/dissertation three have admitted that they have copy pasted the matter with credit while 10 have admitted the same partly. 20 committed that they copy pasted the matter but gave credit. Four have admitted the paraphrasing without credit. 15 have reported that they fabricated the methods and results section while only one admitted for falsification. (Table 4)

The overall prevalence of research misconduct as postgraduate was very high i.e. 91.4%. Prevalence of plagiarism was 63.8%, that of fabrication was 25.9% and the prevalence of falsification was 1.7%. (Table 5)

Lack of facilities and lack of time was the major response leading to plagiarism/research misconduct in 25.9% and 24.1% respectively. 39.7% did not respond to this question. (Table 6)

The most common action suggested was removal of published article and disciplinary warning by 37.9% of responses each. 13.8% of the responses were for no action to be taken. (Table 7)

8.6% of responses said that it is not possible to prevent plagiarism/research misconduct. Majority of the responses were in the favor of training followed by increasing awareness i.e. 56.9% and 51.7% respectively. 44.8% responded that it can be prevented at journal level and similarly 43.1% suggested to screen the articles at publication level. (Table 8)

DISCUSSION:

68.9% knew what is plagiarism but only 8.6% knew types of plagiarism. Prevalence of research misconduct as faculty was 62.1%, (plagiarism=41.4%, fabrication=18.9%,

falsification=1.7%). Prevalence of research misconduct as postgraduate was 91.4% (plagiarism=63.8%, fabrication=25.9% and falsification=1.7%). Lack of facilities and lack of time was the major response leading to research misconduct in 25.9% and 24.1% respectively. Most common action suggested was removal of published article and disciplinary warning by 37.9% of responses each. 8.6% of responses said that it is not possible to prevent research misconduct. Majority of responses were in favor of training followed by increasing awareness i.e. 56.9% and 51.7% respectively for prevention of plagiarism.

Bazdaric K et al⁸ studied plagiarism prevalence in all those articles which were submitted during 2009-10 to Croatian Medical Journal (CMJ). They used software like eTBLAST, CrossCheck, and WCopyfind. Later they were verified manually. The prevalence of plagiarism was 11%. Among these self-plagiarisms was 3% and 8% was true plagiarism. 21% of these plagiarised articles were found to be from china, followed by 19% from Croatia and 14% from Croatia. We found that the prevalence of plagiarism as faculty was 41.4% while as PG was 63.8%.

Taylor DB et al⁹ studied plagiarism prevalence in all those articles which were submitted to American Journal of Roentgenology in the year 2014. They analysed using CrossCheck and manual assessment. They found that prevalence of plagiarism was 10.9%. they recommended using more robust methods to detect plagiarism.

Stretton S et al¹⁰ compared prevalence of plagiarism in articles from developed and developing countries and various factors leading to plagiarism in 213 total articles. The odds of committing plagiarism were 15.4 for authors from developing countries compared to developed countries. The odds of committing plagiarism for non-English authors was 3.2 compared to English authors. The odds of committing plagiarism for non-original research articles was 8.4 compared to original research articles.

Ghajarzadeh M et al¹¹ studied medical faculty attitudes related to plagiarism. The mean of the correct responses was 11.6±3.1. the mean of the correct responses for self-plagiarism was 1.7±0.4.

Rohwer A et al¹² found that the prevalence of guest authorship was 77% and that of text recycling was 60%. Occasional plagiarism was 12% and 24% rarely.

Adeleye OA et al¹³ found that the admission rate of either plagiarism, falsification or fabrication was 22%. Lack of knowledge, publication pressure, were significant risk factors for research wrongdoing.

Singh HP et al¹⁴ noted that the knowledge level of plagiarism was good among the dental professionals in North India. Most of them believed that it was difficult to prevent the plagiarism. Publication pressure was the main responsible factor leading to plagiarism. Other factors were lack of facilities, lack of funding.

CONCLUSION:

Commitment of research misconduct was very high in publications as faculty and still more in dissertations as postgraduates. Lack of awareness, time, facilities, resources

were responsible factors. Training and increasing awareness were the suggested measures.

Limitations of the present study:

Only two medical colleges and convenient selection as well as self-administered questionnaires are major limitations of the present study.

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Table 1: Distribution of study subjects as per correct knowledge on plagiarism

| Knowledge on plagiarism | Correct knowledge | No knowledge |
|----------------------------------|-------------------|--------------|
| What is plagiarism | 40 (68.9%) | 18 (31.1%) |
| What are the types of plagiarism | 05 (8.6%) | 53 (91.4%) |

Table 2: Response to practice questions on plagiarism as Faculty

| Practice questions | Plagiarism present | Plagiarism absent | No response |
|--|--------------------|-------------------|-------------|
| Have you entirely copied pasted others matter and shown as your own | 01 | 52 | 05 |
| Have you copy pasted others part of material like introduction, or discussion and used in your article or thesis without giving credit to the original author (ref. no.) | 05 | 47 | 06 |
| Have you copy pasted others material like introduction, or discussion and used in your article or thesis and gave credit to the original author (ref. no.) | 17 | 30 | 11 |
| You copied others material and then changed the sequence of sentences or words and did not give credit to the original author (ref. no.) | 01 | 45 | 12 |
| Have you ever made any changes in method section like change of place or study duration or type of investigation | 08 | 44 | 06 |
| Have you ever reported or recorded wrong results or changed the values in the tables to make it statistically significant | 03 | 48 | 07 |
| Have you ever recorded or reported new results which you never got from your study findings | 01 | 50 | 07 |

Table 3: Prevalence of plagiarism, fabrication, falsification and research misconduct as Faculty

| Prevalence of | Number | % |
|------------------------|--------|------|
| Plagiarism | 24 | 41.4 |
| Fabrication | 11 | 18.9 |
| Falsification | 01 | 1.7 |
| Research misconduct | 36 | 62.1 |
| No research misconduct | 22 | 37.9 |
| Total | 58 | 100 |

Table 4: Response to practice questions on plagiarism as PG

| Practice questions | Plagiarism present | Plagiarism absent | No response |
|--|--------------------|-------------------|-------------|
| Have you entirely copied pasted others matter and shown as your own | 03 | 55 | 0 |
| Have you copy pasted others part of material like introduction, or discussion and used in your article or thesis without giving credit to the original author (ref. no.) | 10 | 47 | 01 |
| Have you copy pasted others material like introduction, or discussion and used in your article or thesis and gave credit to the original author (ref. no.) | 20 | 30 | 08 |
| You copied others material and then changed the sequence of sentences or words and did not give credit to the original author (ref. no.) | 04 | 46 | 08 |
| Have you ever made any changes in method section like change of place or study duration or type of investigation | 07 | 49 | 02 |
| Have you ever reported or recorded wrong results or changed the values in the tables to make it statistically significant | 08 | 50 | 0 |
| Have you ever recorded or reported new results which you never got from your study findings | 01 | 56 | 01 |

Table 5: Prevalence of plagiarism, fabrication, falsification and research misconduct as Postgraduate

| Prevalence of. | Number | % |
|------------------------|--------|------|
| Plagiarism | 37 | 63.8 |
| Fabrication | 15 | 25.9 |
| Falsification | 01 | 1.7 |
| Research misconduct | 53 | 91.4 |
| No research misconduct | 05 | 8.6 |
| Total | 58 | 100 |

Table 6: Factors responsible for plagiarism based on opinion of participants

| Factors responsible for plagiarism | Number | % | % of cases |
|---|--------|------|------------|
| Publication pressure to publish urgently | 12 | 12.2 | 20.7 |
| For promotion | 10 | 10.2 | 17.2 |
| Lack of time to conduct original study | 14 | 14.3 | 24.1 |
| Lack of funds | 10 | 10.2 | 17.2 |
| Lack of facilities | 15 | 15.3 | 25.9 |
| Lack of good English knowledge while writing article | 07 | 7.1 | 12.1 |
| Lack of knowledge that this behaviour was not appropriate | 07 | 7.1 | 12.1 |
| No response | 23 | 23.5 | 39.7 |
| Total responses | 98 | 100 | 169 |

Table 7: Opinion on action to be taken against those who are found to be involved in plagiarism

| Opinion on action to be taken against those who are found to be involved in plagiarism | Number | % | % of cases |
|---|--------|------|------------|
| No action should be taken | 08 | 9.1 | 13.8 |
| The published article should be removed from publication | 22 | 25 | 37.9 |
| All published articles of such authors should be removed | 11 | 12.5 | 19 |
| Authors should be given only disciplinary warning | 22 | 25 | 37.9 |
| Increments and promotions should be stopped | 06 | 6.8 | 10.3 |
| Such authors should be publicly exposed in media like newspaper, WhatsApp, Facebook etc | 04 | 4.5 | 6.9 |
| Ban future publications of such authors | 04 | 4.5 | 6.9 |
| Suspend registration number of such authors | 01 | 1.1 | 1.7 |
| No response | 10 | 11.4 | 17.2 |
| Total number of responses | 88 | 100 | 151.7 |

Table 8: Opinion on prevention method to be adopted

| Opinion on prevention method to be adopted | Number | % | % of cases |
|--|--------|------|------------|
| Not possible | 5 | 4 | 8.6 |
| Increase awareness | 30 | 24.2 | 51.7 |
| Facilitate training | 33 | 26.6 | 56.9 |
| Can be prevented at journal level | 26 | 21 | 44.8 |
| Screening of articles for plagiarism | 25 | 20.2 | 43.1 |
| No response | 5 | 4 | 8.6 |
| Total number of responses | 124 | 100 | 213.8 |

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