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## Original Research Article

# Knowledge, attitude and practices towards plagiarism observed in undergraduate medical students at a teaching school in south east Asia

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## ABSTRACT

**Aim and Objectives:** In a student academic learning process, process of plagiarism starts very early from preparation for assessment, followed by seminar presentation. This plagiaristic research practice knowingly or unknowingly gets inculcated in student as habit. Studies published on ethics in research practice until now are from developed nations where ethics in research is taught in undergraduate training itself. Aim of study is to investigate knowledge, attitude and practices towards plagiarism in undergraduate medical students at a teaching school in south East Asia.

**Materials and Methods:** We adopted cross sectional study design and study was done during February-April 2022 in a sample of 200 undergraduate medical students to assess knowledge, attitude and practices (KAP) towards plagiarism. All undergraduates (from 1<sup>st</sup> year to final year) of both genders were allowed to participate. Students not willing to be part of study were excluded. Validated questionnaire consisting of three sections addressing knowledge, attitude, and practice of plagiarism was utilized for assessment. Questionnaire consists of (a) Questions related to knowledge (b) Questions related to positive and negative attitudes towards plagiarism and (c) questions related to practice of plagiarism. Students were encouraged to fill all questions. These KAP Questionnaire forms were analysed after taking back from students and percentages were calculated. Data was analyzed by using Microsoft excel and Statistical Package for Social Sciences (SPSS) statistical software, version 16.

**Results:** Out of 200 participants, 52% were females and 48% were males. Mean±SD age of participants is 18.7±2.6 years. Majority of students (80%) know about ethical principles in research and practices of plagiarism. Half of students (50%) had experience with research and instances of plagiarism and some know problems they should encounter if they do plagiarism. 70% appropriately answered domains which include plagiarism, 65% answered appropriately practices that may be considered as plagiarism and 50% answered appropriately practices that may not be regarded as plagiarism and only 40% appropriately answered republishing one's own previous works whether to be considered plagiarism or not. Response to practices of plagiarism is around 20 to 40%. Questions like whether self-plagiarism should be considered serious or not has same response.

**Conclusion:** This shows that majority of undergraduate medical students had knowledge regarding principles of ethics in research and problems they should encounter if they practice plagiarism. Majority have negative attitude towards plagiarism.

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## 1. Introduction

The word plagiarism is derived from Latin which means kidnapper, which was first described by Ben Jonson in 1601.<sup>1</sup> Article on this topic was first time written by Halsted G.B in 1896 under title complement or plagiarism.<sup>2</sup> Occurrence of plagiarism is about 11- 19% and rejection rate by journals was around 23% of articles due to this problem.<sup>3,4</sup>

Plagiarism can be intentional or unintentional and copying easy because of easy access to internet.<sup>5</sup> Persistent desire to be successful, fear of discrimination if there are fewer publications, want to get promotion early, financial gains, peer pressure and desire to increase one's record number of publications are some of causes for plagiarism.<sup>6</sup> Lack of education at undergraduate level regarding plagiarism is another reason for this trend.<sup>7</sup> Publication demand during interviews and to get university or research grants, incentives from pharmaceutical companies is another reason.<sup>8</sup>

Plagiarism can be easily checked with computer aided programmes. Cost of using such

Programmes are limitation for use by low budget journals and in developing countries. iThenticate is most trusted and award winning plagiarism detection program, which has access to 226,000 journals and more than 1,300 publishers worldwide.<sup>9</sup>

Retraction of article, blacklisting of author and expulsion from institute, criminal charges and apology letters are some of penalties for plagiarism.<sup>10,11</sup>

Self-plagiarism is when author has added research on his previously published article and presents it as new without acknowledging first article. Making multiple articles from single article is known as salami slicing or salami tactics.<sup>12,13</sup>

Plagiarism can be avoided by being honest while writing articles. Being original, taking time to write articles, writing in our own words, acknowledging all studied articles, proper reference, avoiding copy paste type of writing, strict adherence to author or journal guidelines and using plagiarism check before submitting.<sup>14,15</sup>

In a student academic learning process, process of plagiarism starts very early from preparation for assessment, followed by seminar presentation. This unethical research practice knowingly or unknowingly gets inculcated in student as habit. Though this practice at this early stage do not have any much consequences, it will have severe impact when same habit continues for dissertation and publication work, that work will not be acceptable for any scientific journal with waste of time and resources and shame of mal-ethical practice and major hurdle for further research work.

This study was conducted to evaluate knowledge, attitude and practices towards plagiarism in undergraduate students

in a teaching school of south East Asia.

## 2. Materials and Methods

We adopted cross-sectional Knowledge, Attitude and Practices (KAP) questionnaire design to evaluate students pattern of thinking about plagiarism, study was done during February-April 2022 among a sample of 200 undergraduate medical students. A sample size of 200 was chosen based on previous literature available and employing empirical sample size determination. Institutional ethics committee approval was taken before starting the study and informed consent was taken from each and every participant of the study.

All undergraduate students of both genders were allowed to participate. Since all participants of our study were 18 years old or above, written consent was taken only after ensuring anonymity of their identities and confidentiality of their responses. Students not willing to be a part of study were excluded.

Questionnaire was finalized after ambiguous and unsuitable questions were modified based on results of pre-test. Final questionnaire consisting of three sections addressing knowledge, attitude and practices of plagiarism was utilized for assessment. It consists of (a) Questions related to knowledge (b) Questions related to positive and negative attitudes toward plagiarism and (c) questions related to practice of plagiarism.<sup>16</sup> Students were encouraged to fill all questions. Interviewer's bias was avoided by engaging in co-prepared explanations of questions and proper measures were taken to reduce response and recall bias. These KAP Questionnaire forms were analysed after taking back from students and percentages were calculated. Data was presented in Microsoft excel and information was coded and entered into Statistical Package for Social Sciences (SPSS) version 16 software.

## 3. Results

Out of 200 participants, 52% were females and 48% were males. Mean±SD of age of participants is 18.7±2.6 years.

Majority of students (80%) know about ethical principles in research and practices of plagiarism. Half of students (50%) had experience with instances of plagiarism and some know problems they should encounter if they do plagiarism.

Tables 2 and 3 shows attitudes of the participants towards plagiarism and Table 4 shows practice regarding plagiarism. Majority of participants reported that they have not practiced plagiarism.

## 4. Discussion

This study is a cross-sectional KAP study. Knowledge, Attitude and Practices (KAP) survey is predefined questions

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**Table 1:** Showing knowledge regarding plagiarism

Questionnaire	Appropriate Answer
Have you ever heard anything about plagiarism?	80%
Are you familiar with instances of plagiarism?	50%
Are you familiar with penalty of plagiarism?	45%
Which domains does plagiarism include?	70%
Which of the following practices may be considered as plagiarism?	65%
Which of the following practices may NOT be regarded as plagiarism?	50%
In what way reprint of one's own previous work may NOT be considered plagiarism?	40%

**Table 2:** Showing positive attitude towards plagiarism

Questionnaire	Agree	Neither disagree nor agree	Disagree
Sometimes one cannot avoid using other people's words without citing source because there are only so many ways to describe something	25%	39%	36%
It is justified to use previous descriptions of method because method itself remains same	30%	50%	20%
Self-plagiarism is not punishable because it is not harmful (one cannot steal from oneself)	30%	50%	20%
Plagiarized parts of a paper may be ignored if paper is of great scientific value	10%	42%	48%
Self-plagiarism should not be punishable in same way as plagiarism is	42%	42%	16%
Young researchers who are just learning ropes should receive milder punishment for plagiarism	40%	40%	20%
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	22%	30%	48%
I could not write a scientific paper without plagiarizing	18%	50%	32%
Short deadlines give me right to plagiarize a bit	40%	40%	20%
When I do not know what to write, I translate a part of a paper from a foreign language	18%	48%	32%
It is justified to use one's own previously published work without providing citation in order to complete the current work	16%	42%	42%
If a colleague of mine allows me to copy from her/his paper, I'm not doing anything bad, because I have his/her permission	32%	39%	29%

**Table 3:** Showing negative attitude towards plagiarism

Questionnaire	Agree	Neither disagree or agree	Disagree
Plagiarists do not belong in the scientific community	30%	52%	18%
The names of the authors who plagiarize should be disclosed to the scientific community	30%	48%	22%
In times of moral and ethical decline, it is important to discuss issues such as plagiarism and self-plagiarism	42%	35%	22%
Plagiarizing is as bad as stealing an examination	52%	29%	19%
Plagiarism impoverishes the investigative spirit	32%	47%	21%
A plagiarized paper does no harm science	14%	39%	47%
Since plagiarism is taking other people's words rather than tangible assets, it should not be considered as a serious offense	15%	43%	42%

**Table 4:** Showing practice regarding plagiarism

Questionnaire	Yes	No
Have you ever used another's work without proper citation to the source?	30%	70%
Have you ever used another's idea as your own?	40%	60%
Have you ever borrowed your previous work without proper citation to primary source?	40%	60%
Have you ever submitted a paper for more than one journal simultaneously?	35%	65%
Have you ever submitted a paper for more than one journal with different languages without permission from the both publishers?	20%	80%
Have ever published a paper in more than one journal?	22%	78%
Have you ever presented the same work in more than two congresses?	28%	72%
Have you ever submitted a paper to a journal without permission of your co-authors?	25%	75%

formatted in standardized questionnaires, measure extent of already known situation; confirm or reject hypothesis and provides an intervention strategy.

This study shows majority of students had knowledge regarding plagiarism. It is natural that every student will be aware of plagiarism, since it is common topic discussed in medical field. Overall knowledge of plagiarism of present study found to be similar to previous studies. Singh and Guram found almost similar result and Lindahl and Grace Study have found better response than our study.<sup>17,18</sup>

Questions like self-plagiarism should not be punishable has same response, study done by Pupovac and others showed similar result.<sup>19</sup> Many students had same opinion in short deadline as a reason for plagiarism. This is similar to studies done previously among pharmacy, medical, and nursing students by Ismail KH and others.<sup>20</sup> However, burden of finishing in time with other activities may prompt students to copy and paste work, which at point of time appears to be appropriate for students. Study done by Hren D shows many students approved self-plagiarism.<sup>21</sup>

In our study, response to practice of plagiarism varied between 20% to 40%. Study done by Rennie reported about 56% prevalence of plagiarism among medical students.<sup>22</sup>

Another study done by Bilic-zulle et al on medical students reported that 83% plagiarism was prevalent.<sup>23</sup> Study done by Kusnoor and Falik found plagiarism was around 87.6%.<sup>24</sup>

Studies done in UK found in plagiarism showed 61.9% of them admitted to having plagiarized online sources.<sup>25</sup> In one of the studies conducted in Pakistan, 94% were not aware of penalties for plagiarism.<sup>26</sup> A study done on dental and medical professionals in India reports lack of knowledge and awareness in this regard.<sup>27</sup> Study done in Bulgaria revealed 47% committed self-plagiarism.<sup>16</sup>

This study gives us idea that students who are practicing plagiarism might be doing because of lack of skills & confidence in academic writing. So academic and scientific writing training should be given to students in every year of their undergraduate curriculum. This training should cover entire principles of avoiding plagiarism and penalty of plagiarism.

This study involved only undergraduate medical students. Participants of this study belonged to same age and socioeconomic status which shows there is lack of diversity.

## 5. Conclusion

This shows that majority of undergraduate medical students had knowledge regarding principles of ethics in research and problems they should encounter if they practice plagiarism. Majority have negative attitude towards plagiarism.

## 6. Source of Funding

None.

## 7. Conflict of Interest


None.


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