ORIGINAL REPORT

Attitude toward Plagiarism among Iranian Medical Faculty Members

Mahsa Ghajarzadeh[1], Abbas Norouzi-Javidan[1], Kiana Hassanpour[2], Kiarash Aramesh[3], and Seyed Hassan Emami-Razavi[1]

[1] *Brain and Spinal Injury Research Center, Tehran University of Medical Sciences, Tehran, Iran*

[2] *Students' Scientific Research Center, Tehran University of Medical Sciences, Tehran, Iran*

[3] *Medical Ethics and History of Medicine Research Center, Tehran University of Medical Sciences, Tehran, Iran*

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Abstract- The goal of this study was to assess attitude towards plagiarism in faculty members of Medical School at Tehran University of Medical Sciences. One hundred and twenty medical faculty members of Tehran University of Medical Sciences were enrolled in this cross-sectional study. They were asked to answer to valid and reliable Persian version of attitude towards plagiarism questionnaire. Attitude toward plagiarism, positive attitude toward self-plagiarism and plagiarism acceptance were assessed. Eighty seven filled-up questionnaires were collected**.** Mean total number of correct answers was 11.6 ± 3.1. Mean number of correct answers to questions evaluating self-plagiarism was 1.7 ± 0.4 and mean number of correct answers to questions evaluating plagiarism acceptance was 1.4 ± 0.2. There was no significant correlation between plagiarism acceptance and self-plagiarism (r=0.17, *P*=0.1). It is essential to provide materials (such as workshops, leaflets and mandatory courses) to make Iranian medical faculty members familiar with medical research ethics issues such as plagiarism.

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Keywords: Attitude; Medical faculty member; Plagiarism

Introduction

Medical research has a major role in patient management and policy making, so it is crucial to be conducted correctly and accurately and published without misconduct or bias.

Nowadays, scientific misconduct becomes a challenging issue in the field of medical research. One of the most crucial issues in this area is plagiarism, which is defined as misappropriation of other's published and non-published resources without providing proper acknowledgment or declaring them as one's personal effort (1,2). Self-plagiarism, which is defined as misconduct of one's own work, is another challenging issue. There is a controversy over considering it as a kind of plagiarism (3).

In recent years, most faculty members all over the world are involved in research. They lead a project, or participate in scientific writing of an article. However, it is not clear if they are familiar with scientific misconduct issues such as plagiarism or not. A previous study demonstrated that medical faculty members of Pakistan had enough knowledge about correct referencing other's materials and copy-right rules (4).

Different factors have been suggested to contribute to the act of plagiarisms. Lack of proficiency in English in non-English speaking countries (5), social benefits, and a lack of respect for intellectual properties (6) are among the most important reasons.

Medical faculty members of Tehran University of Medical Sciences (TUMS) are also involved in numerous research projects and present and publish their works in national and international congresses and journals, but their familiarity with the crucial issue of plagiarism is not clear. The aim of this study was to assess the attitude towards plagiarism in medical faculty members of TUMS.

Materials and Methods

In this cross-sectional study, which was conducted on November 2011 and March 2012, 120 medical faculty members of TUMS (among 800 faculty members) were selected by means of computer generated random numbers. The cases were contacted face-to-face or via

Corresponding Author: Seyed Hassan Emami-Razavi
Brain and Spinal Injury Research Center, Imam Khomeini Hospital, Tehran University of Medical Sciences, Tehran ,Iran
Tel/Fax: +98 21 66581561, E-mail: emamiraz@tums.ac.ir

email, and for those who did not respond within the given time, we sent the questionnaire along with a reminder note. At the end, 87 questionnaires were returned (RR= 72%).

The attitude toward plagiarism (ATP) questionnaire, developed by Mavrinac *et al*. in 2010, was used to assess medical faculty members' attitude toward plagiarism (3). The original form contains 29 questions with three different factors: factor I consists of 12 items representing positive attitude toward plagiarism; factor II consists of 7 items for negative attitude toward plagiarism; and factor III consists of 10 items showing subjective norms toward plagiarism.

In our previous study, we assessed the validity and reliability of Persian version of the questionnaire (7). The Persian version contains 25 questions. Answers to all items were presented on a five-point Likert-type scale from 1 to 5; 1 (strongly disagree), 2 (disagree), 3 (neither agree nor disagree), 4 (agree), and 5 (strongly agree).

We considered questions 3, 5, 9 and 24 as questions evaluating self-plagiarism, and questions 2, 6, 9, 10, 12, 16, 17, 20, 21, 22, 23 and 25 queries evaluating acceptance of plagiarizing others materials.

Age, gender and the previous experience of article writing of each individual were also gathered.

Statistical analyses were performed using SPSS software version 18.0, (Statistical Product and Service Solutions, SSPS Inc., Chicago). Results were presented as mean ± SDs, and frequencies. The Student's t-test was used for continuous variables and the Pearson Chi-square test with Fisher's exact test for categorical variables. Pearson correlation was calculated for correlation analysis. *P*-value less than 0.05 was considered statistically significant.

Results

Eighty seven medical faculty members (mean age= 46.9 ± 9.1 years) were participated in this study. Sixty two were male and 25 were female. Eighty six had previous experience of scientific writing. Less correct answers were obtained from factor II questions (Table1).

Mean total number of correct answers was 11.6 ± 3.1, and mean correct answers were not significantly different between male and female participants (male: 1.68 ± 0.1, female: 1.69 ± 0.1, *P*=0.7).

Table 1. Frequencies of correct, false and neutral responses to questions.

	Correct answers (%)	False answers (%)	Neutral answers
Question 1	73(83.9%)	13(14.9%)	1(1.1%)
Question 2	59 (67.8%)	22 (25.3%)	6 (6.9%)
Question 3	26 (29.9%)	49 (56.3%)	12 (13.7%)
Question 4	21(24.1%)	55 (63.2%)	11(12.6%)
Question 5	59 (67.8%)	20 (23%)	8 (9.1%)
Question 6	67 (77%)	13 (14.9%)	7 (8%)
Question 7	48 (55.2%)	28 (32.2%)	11(14.6%)
Question 8	62 (71.3%)	12 (13.8%)	13 (14.9%)
Question 9	55 (63.2%)	19 (21.8%)	13(14.9%)
Question 10	53 (60.9%)	19 (21.8%)	15 (17.2%)
Question 11	20 (23%)	51(58.6%)	16 (18.4%)
Question 12	15 (17.2%)	51(58.6%)	21(24.1%)
Question 13	8 (9.2%)	61 (70.1%)	18 (20.7%)
Question 14	2 (2.3%)	79 (90.8%)	6 (6.9%)
Question 15	0	82 (94.3%)	5 (5.7%)
Question 16	13 (14.9%)	65 (74.7%)	9 (10.3%)
Question 17	1(1.1%)	77 (88.5%)	9 (10.3%)
Question 18	20 (23%)	26 (29.9%)	41(47.1%)
Question 19	19 (21.8%)	24 (27.6%)	44 (50.6%)
Question 20	65 (74.7%)	19 (21.8%)	13(14.9%)
Question 21	83 (95.4%)	1(1.1%)	3(3.4%)
Question 22	86 (98.9%)	0	1(1.1%)
Question 23	50 (57.5%)	14 (16.1%)	23 (26.4%)
Question 24	32 (36.8%)	33(37.9%)	22(25.3%)
Question 25	74 (85.1%)	7 (8%)	6 (6.8%)

Mean numbers of correct answers to questions evaluating self-plagiarism, and plagiarism acceptance were 1.7±0.4 and 1.4±0.2 respectively. There was no significant correlation between plagiarism acceptance and self-plagiarism (r=0.17, *P*=0.1).

Discussion

Attitude toward plagiarism (ATP) questionnaire is a well-designed instrument assessing individuals' beliefs about this highly focused issue in the field of medical research. The Persian version of this questionnaire which we had assessed its validity and reliability in our previous study (7), consists of 25 questions and three factors. The first factor of this questionnaire, consisting 10 questions, evaluates positive attitude toward plagiarism and represents acceptance of doing plagiarism in different ways and situations. The second factor consists of 7 questions evaluating negative attitude toward plagiarism, and shows the negative consequences of plagiarism. The last eight questions evaluate subjective norms, indicative of common thoughts and acceptance of plagiarism in the academic area. Marvinac *et al.* (3) considered this part when they developed the ATP questionnaire in accordance with Ajzen's theory of planned behavior (TBP) model which considered subjective norms as an important factor influencing behaviors along with attitude (8). Marvianac *et al.* applied TPB model for developing ATP questionnaire, which is appropriate for evaluating beliefs, attitudes, behavioral intentions, behavior in public relations, advertising, health care, and predicting dishonest behavior (9). In this model, culture was considered as an important part of social behavior (8).

Our survey showed that medical faculty members answered less correctly to negative attitude toward plagiarism questions in comparison with other two factors.

In our previous survey, residents gave the lowest number of correct answers to questions and interns gave the highest number of correct answers (residents 6.9 ± 0.9, interns 15.7 ± 5.5, and clerkships 13.4 ± 3.6). In current survey, the mean total correct answers was 11.6 ± 3.1, which was higher than mean correct answers of residents and lower than that of interns and clerkships. This can be suggestive of insufficient familiarity of medical faculty members and residents in developing countries with important issues in medical research such as plagiarism.

Shirazi *et al*. investigated higher rate of knowledge and perceptions of plagiarism among medical faculty members of Pakistan than among medical students (10), which is contrary to our findings.

Although internet makes plagiarism easier, it makes its identification easier too. Softwares such as w-copy find can be downloaded from the web (www.plagiarism.phys.virginia.edu/software.html), which evaluates document files to find matched phrases between them. The software is free and can be applied in any language (11).

Glatt plagiarism service is another plagiarism finding program that eliminates every fifth word and asks the author to fill the missing words. Fulfillment less than 77 % of missing words is indicative of plagiarism (12).

Introducing the aspects of plagiarism and clear warning against it will be effective in decreasing plagiarism. Accessibility of plagiarism detecting softwares in all universities and colleges and considering punishment for all levels of plagiarism could also be helpful in diminishing it's rate (13) because previous studies showed that being not familiar with plagiarism concepts and being forced to do a research in a short time would be the most influencing factors (14, 15).

It is essential to provide materials such as workshops, leaflets and mandatory courses to make Iranian medical faculty members familiar with medical research ethical issues such as plagiarism.

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