

Research Article

Conceptual awareness of plagiarism among post graduate students and academic staff of Universities of Medical Sciences in Western Iran.

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ABSTRACT

Introduction: The word Greek origin "Plagion" is the root of word plagiarism and in Latin it is "plagiarius", which mean kidnapper, seducer, plunderer and literacy thief and also from "plagium" means Kidnapping. Most academic researches argued that plagiarism as a serious violation of publishing ethics in academic institutes. This study aimed to obtain a general perspective on the status of postgraduate students and masters- professors in term of understanding the plagiarism issue.

Methods and Material: A self-made questionnaire with two different parts was used to collect the data on different aspects covering the concept of plagiarism. The first part was included the demographic variables and the second section contained questions to elicit their understanding and awareness related to five more common issues of plagiarism.

Results: Overall, 113 postgraduate students and 263 academic staff took part from the four universities of medical sciences in west of Iran. From five forms of our list, there was a significant difference between the conceptual awareness of academic staff in universities related to "misinformation of references" and "translated plagiarism". Overall result of conceptual awareness of participants to plagiarism show that about 34.2% of academic staff know all five types of our list as plagiarism act, while 44% of postgraduate students know all as plagiarism applications.

Conclusion: The results show that less than half of the total number of postgraduate students and masters-professors succeeded in giving the right perception of all five common plagiarism forms, so are not familiar enough with plagiarism issue. If we add uncommon types in our list, knowledge level may become less than this rate. The academic institutes have to plan a comprehensive research ethics educational program for increasing understanding and awareness of academicians.

Keywords: Plagiarism, Awareness, Research Ethics, Academic Institutes.

INTRODUCTION

It seems ethical problems in sciences have been become controversial issues in universities and research centers and are rapidly increasing [1].

Plagiarism is closely associated with person or public moral and academic values [2]. Academic dishonesty and scientific misconduct including

fabrication, falsification, deception and plagiarism is going to be a crucial issue in the field of medical researches. The most common form of them is plagiarism [3] which according to the reports is an increasingly wide spread practice in universities and research institutes [1]. Many interested researches have traced the etymology of the word plagiarism from different English Dictionaries and Latin origin root of the plagiarism term. The word Greek origin "Plagion" is the root of word plagiarism and in Latin it is "plagiarius", which mean kidnapper, seducer, plunderer and literary thief. The word plagiarism as literary they coming from the English word "plagiary" as a form of intellectual theft and academic dishonesty [4]. Plagiary as English word means one who wrongfully takes another's word or ideas which detailed by American Associations of University Professors (1989), "Taking over the ideas, methods, or written words of another, without acknowledgment and with the intention that they be taken as the work of deceiver". Other researchers also cited a set of definitions and terms related to plagiarism from various dictionaries as one defines plagiarism as "the use , without giving reasonable and appropriate credit to or acknowledging the author or source, of another person's original work , whether such work is made up of code, formulas, ideas , language, research, strategies, writing another forms(s) " . Also defined as "the practice of taking someone else's work or ideas and passing them off as one's own and also the theft of ideas or of written passage or work where these are passed off as one's own work without acknowledgement of their true origin, or piece of writing stolen" [5]. Some traced the term of plagiarism from the compact oxford English Dictionary that defines plagiarism as the act of taking the work or idea of someone else and pass it off as one's own, even plagiarism may be committed as self-plagiarism which defines any misconduct of one's own work in another challenging issue and as a new work issue [4, 5]. Therefore, based on plagiarism definition, researches "not permitted misappropriation of another work, idea, methods, results or words without granting and acknowledging the source

and original instigator" [5]. Studies show that more than half of medical students lacked knowledge about some of the most common plagiarism [6]. Plagiarism is becoming an increasing concern around the world [6] and it needs to be taken into account in academic education [2]. Scientific data should be presented and discussed in an accurate, ethical and honest way [7]. However, this is not a new issue as has been plaguing literature, art and sciences since times immemorial [8]. Lack of good explication and different understanding of plagiarism are contributed to the prevalence of plagiarism in scientific community [1] and it undermines integrity of education and occurs at all level of scholarship [9]. Studies show that with increasing the new technologies and easy access to information, the frequency of plagiarism is on increase [10]. Plagiarism is a serious issue for students who are undertaking training to enter professions where integrity, honesty and trustworthiness are paramount to their relationship to work role and duty [11]. In medical sciences, plagiarism is very important because they are dealing with human life. However plagiarism damages all scientific products [12]. In fact, most academic reports argue that plagiarism as a serious violation of publishing ethics is caused by lack of sufficient knowledge of authors regarding plagiarism [1, 13], We studied the knowledge and conceptual awareness of postgraduate Students and academic staff in 4 universities in western Iran toward the plagiarism.

MATERIAL & METHODS

This research was conducted in the 2015/2016 academic year examining understanding of the plagiarism concept among masters- professors and post graduate students. Participants were drawn from 4 Medical Sciences Universities in the west of Iran (Kermanshah, Lorestan, Kurdistan and Ilam Universities of Medical Sciences". The study seeks to obtain a general perspective of the academic staff and postgraduate students related to plagiarism. This particular level of students was considered for the sake of their educational curriculum which included thesis and projects and they were

engaged in education and researches in medical sciences. Based on the universities' academic population a sample size of academic masters – professors and postgraduate students was randomly selected. The number of master – professors was 245 and postgraduate students were 102 which by adding 10% probability for none responding, the questionnaire was distributed to all. The total number of masters – professors participated the study was 259 while postgraduate students were 113. To gather data a questionnaire were developed by researchers. In the first part of the questionnaire participants were asked to provide demographic and general scientific information. In second part, based on list of different plagiarism forms [14] 5 most often familiar and more commonly in practice plagiarism in list were selected. This section of questionnaire designed to elicit participants' conception and awareness related to following forms of plagiarism.

1. **Copy and paste:** coping word to word textual contents from one or more someone else' s work as his/her own.
2. **Paraphrasing:** changing grammar/synonymy reordering sentences in original work or restating same contents in different words.
3. **No proper use of quotation marks:** failing to identify exact parts of borrowed contents
4. **Misinformation of references:** adding references to incorrect or non-existing original sources.
5. **Translated plagiarism:** cross language content translation and use without references to original work.

Participants asked only to mark the "No" or "Yes" based on their perception to plagiarism. Based on these 5 plagiarism applications we evaluated the all postgraduate students and professors related to understanding of the plagiarism concept and in fact aimed to assess their viewpoints and awareness to these different applications of plagiarism . Data analyzed using the STATA/SE12 Software. All academic students and professors concepts were evaluated with respect to gender, age, institution, scientific level, academic field, marriage status and participation to research ethics and article

writing workshops. The research protocol was approved by Ethic Committees of Ahvaz and Kermanshah Universities' of Medical Sciences.

RESULTS

Population of the study consists of 259 masters – professors and 113 post graduate students from the four medical sciences universities Ilam , lorestan , Kurdistan and Kermanshah in west of Iran. From sample respondents of postgraduate students 58 persons (51.3%) was male an 55 (48.7%) female while masters- professors were 163 (62.9%) and 96 (37.1%) respectively . the average age of postgraduate student sample was 28.97 ± 0.42 and majority (90.3%) were in age range of 25-34 years .The masters-professors average age was 41.6 ± 0.42 year and mostly (42.9%) in age range of 35-44 years. (Tables 1, 2) . About 25% of postgraduate students in time of study were married while masters- professors marriage statue were 74% and 26% respectively. About 70% of students are M.Sc. and 30% are Ph.D. from all masters – professors random 82(32.3%) were in master academics level and 149(58.7%) assistant professor and 23(9%) professor and associated professor .From all respondents 59.5% of postgraduate students participated in scientific article writing workshops. The proportion of respondents who participate Research Ethics Workshops for students and masters- professors was 52.3% and 70.5% respectively (Tables 1,2) .Conceptual awareness of respondents was evaluated based on 5 selected different plagiarisms. We examined the degree of agreement of students and masters – professors related to these 5 more common forms of paganisms" copy and paste , paraphrasing, no proper use of quotation marks, misinformation of references and translated plagiarism". The results show that from first form of plagiarism in our list (copy and paste) about 90% of masters – professors and 74% of postgraduate students know that this act indeed is plagiarism, whilst about 92% and 95% of masters – professors and postgraduate students considered the act of "misinformation of references" as plagiarism respectively. Detailed examination of the level of understanding and awareness among respondents to plagiarism

conception demonstrated in Table 3. The results show that among academic staff of studied universities about 95% of respondents from Kurdistan and Lorestan universities of medical sciences know our first type of plagiarism "copy and paste" as a plagiarism application. Whilst more than 90% of master-professors in Kurdistan, Kermanshah and Ilam 3 form of our plagiarism "no proper use of quotation marks, misinformation of references and translated plagiarism know as plagiarism acts. From 5 forms of our list, there was a significant differences between the conceptual awareness of masters-professors in universities related to "misinformation of references" and "translated plagiarism". Closer results of the level of understanding among respondents in all 4 universities of the plagiarism concept can be seen in Table 4. The results indicated that there is no significant differences among the postgraduate students in relation to age, gender, marriage status and education level In term of plagiarism knowledge (Table 2). the results also show non-significant differences among masters-professors in related to gender, marriage status and scientific field, related to plagiarism knowledge, but it was a statistically significant differences among them regarding to age and scientific levels. (Table 1). No significant relationship found between participating "article writing" and "research ethics" workshops and plagiarism knowledge among both academic staff and post graduate students. (Tables 1,2). The results show that among postgraduate students of 4 studied universities more than 90% of them know "misinformation of references" as a plagiarism act. All students of Ilam and Kurdistan universities know two form of mentioned plagiarism "copy past and no proper use of quotation" as plagiarism applications. The more detailed differentiation of conceptual awareness among postgraduate students in studied universities can be seen in Table 5. The results also show from 5 form of considered plagiarism among postgraduate students of studied universities there was a significant differences in 3 type of plagiarism "copy paste, paraphrasing and translated plagiarism", but not the other forms. The student perceptions of what

constitutes plagiarism are reported in Table 6. Another result found in the study is non-significant differences among masters-professors and postgraduate student related to conceptual awareness of 4 type of mentioned plagiarism, only in case of "copy and paste" the difference was significant (Table 6). Overall result of conceptual awareness of masters-professors and postgraduate student to plagiarism show that about 34.5% of masters-professors know all five types of our list as plagiarism act, while 44% of postgraduate students know all 5 types as plagiarism applications (Table 6.)

DISCUSSION

The results show that the average age of Masters- Professors is about 42 years and postgraduate students about 29 years this differentiation was expected because of work history of master-professors in universities. The results indicated that 90% of Academic staff and 74% of postgraduate students know that the "copy and paste" in fact is a plagiarism act. This confirms other studies [15]. In the other hand this type of plagiarism is one of the more common plagiarism among researchers [16, 17] but studies show that considerable rate of students often copy and paste from book without references [10]. This study show that 90% of masters-professors and 95% of postgraduate students considered the "misinformation of references" as plagiarism application as other studies has shown [18], whilst some studies show "no proper use of Quotation marks" is most known plagiarism form [19, 20]. The results show that there is a significant differences between the conceptual awareness of master-professors in studied universities related to two type of plagiarisms in our list "misinformation of references" and "translated plagiarism". However there is a considerable interest and research on plagiarism topic, but the focus has mostly been on undergraduate students [9], but we examined postgraduate students. The awareness of students related to some forms of plagiarisms was acceptable, but only 44% of postgraduate students considered all 5 types of our list as plagiarism. This means

more than 50% of postgraduate students are not familiar enough with most common plagiarism applications as other studies also confirm [3]. The results indicated that the knowledge of participants to plagiarism applications was not as high as expected from academicians who engaged research projects as only 34.5% of Masters- Professors known 5 type of our list as plagiarism act. However our list was 5 common types of plagiarisms. This means if we add uncommon types in our list, knowledge level may become less than this rate. Post graduate students are also partially aware about the all five plagiarisms forms as other studies have shown [18]. The result show that no significant differences was between master- professors and postgraduate students related to 4 type of plagiarisms, this means both academic staff and postgraduate student have a consistent view point and awareness to these types of plagiarism. The results of this study indicated that there is no significant differences among the postgraduate students in relation to age, gender, marriage status and education level in term of plagiarism knowledge this, confirms results of other studies [4, 13]. There was a statistically significant difference among masters -professors regarding to age and scientific levels, this means scientific experience affects the awareness of masters-professors related to plagiarism applications. The relationship between participated "article writing" and "research ethics" workshops and plagiarism knowledge among both academic staff and post graduate students was not significant however we expected to be significant as other studied shown [13]. It needs also we examine the prevalence of plagiarism among both postgraduate students and masters - professors for evaluation of the relationship between awareness and plagiarism act. Plagiarism known as a global problem which occurs in different areas of our life [21], in other hand the studies show that medical college teachers and students share a considerable level of ignorance regarding the issue that they do not really know that they are plagiarizing [6]. In this study also more than 50% of participants did not

succeeded in giving the right perception of all given plagiarism forms.

CONCLUSION

The wrong understanding of plagiarism and incorrect definition could cause academic society with different issues of plagiarism [19] so we should have a comprehensive and clear definition of plagiarism as in recent years internet provides unrestricted opportunities and ease of access for researchers [10, 14]. Studies show both undergraduate and postgraduate students require training to avoid plagiarism [9]. So however we need honor codes and relevant laws and rules and different detection and punishments [9] in order to decrease plagiarism [12], but we have to plan a comprehensive educational program for increasing understanding and awareness of academicians as this study and other studies [3, 6, 11, 13] show that they are not indeed familiar enough with the plagiarism issue.

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REFERENCES

- [1] M. Bahadori, M. Izadi, and M. Hoseinpourfard, (2012), "Plagiarism: concepts, factors and solutions," *Journal Mil Med*, vol. 14, pg. 168-177.
- [2] C. Park, (2003), "In other (people's) words: Plagiarism by university students--literature and lessons," *Assessment & evaluation in higher education*, vol. 28, pg. 471-488.
- [3] M. Ghajarzadeh, M. Mohammadifar, and S. Safari, (2013), "Introducing Plagiarism and

Its Aspects to Medical Researchers is Essential," *Anesthesiology and pain medicine*, vol. 2, pg. 186-7.

- [4] E. Eret and T. Gokmenoglu, (2010), "Plagiarism in higher education: A case study with prospective academicians," *Procedia-Social and Behavioral Sciences*, vol. 2, pg. 3303-3307.
- [5] M. Garg and V. Singh, (2014), "Plagiarism and Anti-Plagiarism Software," *European Academic Research*, vol. 1, pg. 3266-3273.
- [6] B. Shirazi, A. M. Jafarey, and F. Moazam, (2010), "Plagiarism and the medical fraternity: a study of knowledge and attitudes," *JPMA. The Journal of the Pakistan Medical Association*, vol. 60, pg. 269.
- [7] N. Das and M. Panjabi, (2011), "Plagiarism: Why is it such a big issue for medical writers?," *Perspectives in clinical research*, vol. 2, pg. 67.
- [8] R. Bipeta, (2012), "Plagiarism: A cause for concern," *J Psychol Med*, vol. 13, pg. 2-6.
- [9] T. Bretag, (2013), "Challenges in addressing plagiarism in education," *PLoS Med*, vol. 10, pg. e1001574.
- [10] P. C. Dias and A. S. C. Bastos, (2014), "Plagiarism phenomenon in European countries: Results from GENIUS Project," *Procedia-Social and Behavioral Sciences*, vol. 116, pg. 2526-2531.
- [11] D. Kenny, (2007), "Student plagiarism and professional practice," *Nurse education today*, vol. 27, pg. 14-18.
- [12] A. M. Keyvan, R. Ojaghi, S. M. Cheshmeh, and A. Papi, (2013), "Typology of Plagiarism Using the Experiences of Experts in Isfahan University of Medical Sciences, Iran," *Health Information Management* vol. 10, pg. 1-12.
- [13] S. Fealy, N. Bighlari, and G. Pezeshki Rad, (2012), "Agricultural Students' Attitude and Behavior on Plagiarism in Tarbiat Modares University," *Quarterly Journal of Research and Planning in Higher Education*, vol. 18, pg. 133-151.
- [14] H. A. Maurer, F. Kappe, and B. Zaka, (2006), "Plagiarism-A Survey," *J. UCS*, vol. 12, pg. 1050-1084.
- [15] J. Wilkinson, (2009), "Staff and Student Perceptions of Plagiarism and Cheating," *International Journal of Teaching and Learning in Higher Education*, vol. 20, pg. 98-105.
- [16] M. Hart and T. Friesner, (2004), "Plagiarism and poor academic practice—a threat to the extension of e-learning in higher education?," *Electronic Journal on E-learning*, vol. 2, pg. 89-96.
- [17] M. Vieyra, D. Strickland, and B. Timmerman, (2013), "Patterns in plagiarism and patchwriting in science and engineering graduate students' research proposals," *International Journal for Educational Integrity*, vol. 9,
- [18] Z. Cheema, S. Mahmood, A. Mahmood, and M. A. Shah, (2011), "Conceptual awareness of research scholars about plagiarism at higher education level: Intellectual property right and patent," *International Journal of Academic Research*, vol. 3, pg. 666-671.
- [19] L. Sarlauskienė and L. Stabingis, (2014), "Understanding of plagiarism by the students in HEIs of Lithuania," *Procedia-Social and Behavioral Sciences*, vol. 110, pg. 638-646.
- [20] A. F. Cole, (2007), "Plagiarism in graduate medical education," *Family Medicine Kansas City*, vol. 39, pg. 436.
- [21] D. Chuda and P. Navrat, (2010), "Support for checking plagiarism in e-learning," *Procedia-Social and Behavioral Sciences*, vol. 2, pg. 3140-3144.

Table 1: Frequencies and correlations of demographic and educational status of Academic Staff and their conceptual awareness to plagiarism

Variables	Variable Level	frequencies	Percent	Pvalue
Age	25-34	48	18.5	0.01
	35-44	111	42.9	
	≥45	100	38.6	

Gender	Male	163	62.9	0.27
	Female	96	37.1	
Marriage Status	Married	186	71.8	0.25
	Single	73	28.2	
Scientific Level	Master	82	31.7	0.04
	Assistant Professor	150	57.9	
	Associated Professor	20	7.7	
	Professor	7	2.7	
Scientific Field	Clinical	74	28.6	0.43
	Basic Science	185	71.4	
Article Writing Workshop	Yes	223	86.1	0.81
	No	36	13.9	
Research Ethics Workshop	Yes	183	70.7	0.73
	No	76	29.3	

Table 2: Frequencies and correlations of demographic and educational status of postgraduate students and their conceptual awareness to plagiarism

Variables	Variable Level	frequencies	Percent	Pvalue
Age	25-34	102	90.3	0.85
	35-44	9	8	
	≥45	2	1.8	
Gender	Male	58	51.3	0.08
	Female	55	48.7	
Marriage Status	Married	28	24.8	0.53
	Single	85	75.2	
Educational Level	M.Sc.	75	66.4	0.90
	Ph.D.	38	33.6	
Article Writing Workshop	Yes	66	58.4	0.50
	No	47	41.6	
Research Ethics Workshop	Yes	53	46.9	0.17
	No	60	53.1	

Table 3: The level of understanding and awareness among respondents to 5 common form of plagiarism

Plagiarism Types	Academic Staff		Postgraduate Students		Pvalue
	frequencies	Percent	frequencies	Percent	
Copy and paste	229	90.5	83	73.5	0.001
Paraphrasing	122	48.6	65	58	0.09
No proper use of quotation marks	234	91.4	98	86.7	0.16
Misinformation of references	231	92	107	94.7	0.36
Translated plagiarism	228	88.7	96	85	0.31

Table 4: Comparison of the level of understanding and awareness among Academic staff in studied Universities to 5 common form of plagiarism

Plagiarism Types	Academic Staff								Pvalue
	Ilam		Lorestan		Kurdistan		Kermanshah		
	No.	%	No.	%	No.	%	No.	%	
Copy and paste	32	88.9	56	94.9	54	96.4	87	85.3	0.08
Paraphrasing	17	45.9	34	57.6	22	39.3	49	49.5	0.38
No proper use of quotation marks	34	91.9	51	87.9	54	93.1	95	92.2	0.79
Misinformation of references:	34	94.4	44	75.9	54	96.4	99	98	0.001
Translated plagiarism	35	94.6	42	70	56	96.6	95	93.1	0.001

Table 5: Comparison of the level of understanding and awareness among postgraduate students in studied Universities to 5 common form of plagiarism

Plagiarism Types	Post graduate students								Pvalue
	Ilam		Lorestan		Kurdistan		Kermanshah		
	No.	%	No.	%	No.	%	No.	%	
Copy and paste	8	72.8	8	100	12	100	55	67.1	0.05
Paraphrasing	6	54.5	3	37.5	8	66.7	48	59.3	0.003
No proper use of quotation marks	9	81.8	8	100	12	100	69	84.1	0.33
Misinformation of references	10	90.9	8	100	11	91.7	78	95.1	0.90
Translated plagiarism	11	100	2	25	11	91.7	72	87.8	0.001

Table 6: Overall conceptual awareness of participant to 5 form of plagiarism.

Number of Plagiarisms to say "Yes"	Academic Staff		Post graduate students	
	Number	Percent	Number	Percent
0	1	0.4	1	0.9
1	1	0.4	2	1.8
2	4	1.6	9	8
3	37	15.2	24	21.4
4	117	48.1	27	24.1
5	83	34.2	49	43.8