Original Article

Scientific Writing

Scientific Writing: Hands-on Workshop Analysis Among the Faculty of Medical Sciences

Hina Khan[1], Umer Kazi[2], Asad Raza Jiskani[3], Bushra Zulfiqar[4], Ghazala Panhwar[5] and Erum Saboohi[6]

ABSTRACT

Objective: To analyze the pre and post hands-on workshop analysis of faculty members related to medical sciences regarding scientific writing

Study Design: Cross sectional analytical study

Place and Duration of Study: This study was conducted at the faculty of Medical Sciences in Al-Tibri Medical College and Hospital, Isra University Karachi Campus from January 2020 to May 2020.

Materials and Methods: After taken an ethical approval, total 50 number of faculty members of medical sciences were enrolled in research based work shop on the basis of convenient sampling. The workshop was conducted in three different phases and equally divides the faculty into groups. Before the workshop, the participants were given verbal consent and fill the pre-workshop questionnaire and after completion of hands-on workshop the similar questionnaire was filled by the participants. Now the pre and post workshop data was collected and presented in the form of frequency and percentage of response given by the participants and Chi-square test was applied to draw the significant difference between pre and post analysis. The level of significance was taken P=<0.05

Results: The significant difference (P value <0.01) were analyzed through pre and post workshop analysis in all component of the questionnaire

Conclusion: The study results revealed the significant difference in pre and post analysis of faculty members, they are lacking in quality when it comes to knowledge and writing skills in scientific writing, however, if workshops are conducted regularly they will develop skills necessary to write better literature and submit their work in different publications for appraisal. Research excellence department should be established for the faculty development

Key Word: Scientific Writing, Workshop, Medical Sciences

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INTRODUCTION

"Every secret of a writer's soul, every experience of his life, every quality of his mind, is written largely in his works." Writing isn't easy, but it is essential. The same can also be said in the field of medicine, which requires doctors' to write and publish their articles in the field of medicine to keep the world as well as their colleagues up to date with the latest research that is ongoing. Clear communication is vital to sustaining the ever-evolving field of research[1].

[1.] Department of Anatomy / Ophthalmology[2] / Medicine[3] / Gynae & Obstet[4] / Biochemistry[5] / Pediatrics[6], Al-Tibri Medical College and Hospital, Isra University Karachi.

Correspondence: Dr. Hina Khan, Associate Professor of Anatomy, Al-Tibri Medical College and Hospital, Isra University Karachi.
Contact No: 0346-3318553
Email: drhinasalman@gmail.com

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This is why there is a need for the development of writing skills among medical practitioners, as effective writing will allow them to take part in ongoing scientific conversion[2]. Medical writing is a difficult task and requires ongoing continuous learning to enhance writing skills so that the author may publish a much more coherent publication. However, most of the undergraduate and postgraduates in the field of medicine are unable to write and therefore not publishing their work. We are witnessing an increase in innovations concerning medical education, along with venues in which they can be described and disseminate their work; however, still many educators are not expressing their educational innovations for publications because of which many ideas are not being shared[3]. In the field of medicine, many are reluctant to write either due to a lack of time, lack of self-confidence, trouble in writing, or trouble in selecting a topic that has a wide appeal[4,5]. Some academics might still go on to write medical publications only for the prospect of better selection, appointment, and for a chance of better earning but their writing will never be up to the standard and will be deemed unsatisfactory[6]. They must have proper knowledge of how to proceed in writing a manuscript and how to make it coherent

literature which can be accepted into peer-reviewed medical journals. Having seen that most of our colleagues and residents do not have the proper knowledge as well as skill when it comes to writing a scientific paper, we decided to conduct a hands-on workshop on scientific writing among the faculty of medical sciences and see what the outcomes might be.

MATERIALS AND METHODS

After taking approval of the ethical committee, a cross-sectional analytical study was conducted between the duration of January 2020 to May 2020 among the faculty of medical sciences in Al-Tibri Medical College and Hospital, Isra University Karachi Campus. Total 50 number of faculty members of medical sciences were enrolled in research based work shop on the basis of convenient sampling. The workshop was conducted in three different phases and equally divides the faculty into groups. Before the workshop, the participants were given verbal consent and fill the pre-workshop questionnaire and after completion of hands-on workshop the similar questionnaire was filled by the participants. Now the pre and post workshop data was collected and presented in the form of frequency and percentage of response given by the participants and Chi-square test was applied to draw the significant difference between pre and post analysis. The level of significance was taken P=<0.05.

RESULTS

Figure 1: shows the percentage of Gender based distribution of the participants. Figure 2: shows the frequency of participants according to designation. Figure 3 shows percentage of the participants in respect to their research skills. Table 1: shows the frequency and percentage of the faculty members response in accordance with questionnaire regarding basics of scientific writing, a pre and post hands-on workshop analysis with level of significance.

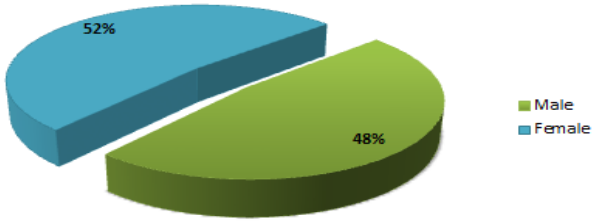

Figure No, 1: shows Percentage of Gender based distribution among the faculty

Table No.1: shows the frequency and percentage of the faculty members response in accordance with questionnaire regarding basics of scientific writing, a pre and post hands-on workshop analysis with level of significance

		Pre-workshop		Post workshop		P-value
	Questionnaire (Basics of scientific writing)	Yes	No	Yes	No	
1	Do you aware about the authorship criteria of ICMJE?	34(68%)	16(32%)	49(98%)	1(2%)	<0.001
2	Do you know the types of data used in research?	28(56%)	22(44%)	48(96%)	2(4%)	<0.001
3	Do you having knowledge about the test of significance that is applied for data analysis?	18(36%)	32(64%)	43(86%)	7(14%)	<0.001
4	Can you describe different types of variable?	18(36%)	32(64%)	48(96%)	2(4%)	<0.001
5	Do you know how we can search the literature?	24(48%)	26(52%)	50(100%)	0(0%)	<0.001
6	Do you understand the difference between Null and alternate hypothesis?	22(44%)	28(56%)	49(98%)	1(2%)	<0.001
7	Can you describe the methods using for testing of hypothesis?	16(32%)	34(68%)	46(92%)	4(8%)	<0.001
8	Do you know the rationale of the study?	19(38%)	31(62%)	45(90%)	5(10%)	<0.001
9	Can you describe the different sampling methods?	17(34%)	33(66%)	42(84%)	8(16%)	<0.001
10	Do you known how to analyze the data through SPSS?	16(32%)	34(68%)	40(80%)	10(20%)	<0.001
11	Can you differentiate between variable and reliable?	20(40%)	30(60%)	48(96%)	2(4%)	<0.001
12	Do you know what plagiarism is and how to avoid it?	24(48%)	26(52%)	49(98%)	1(2%)	<0.001
13	Can you write references of journal article, book chapter in Vancouver style?	17(34%)	33(66%)	41(82%)	9(18%)	<0.001
14	Do you know what is meant by Letter of Undertaking?	21(42%)	29(58%)	47(94%)	3(6%)	<0.001

Chi-square test applied **Level of significance P=<0.05**

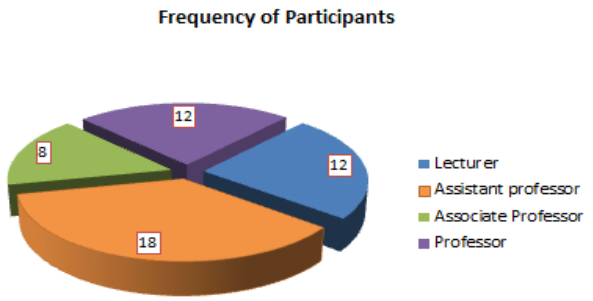

Figure No. 2: Frequency of participants according to designation

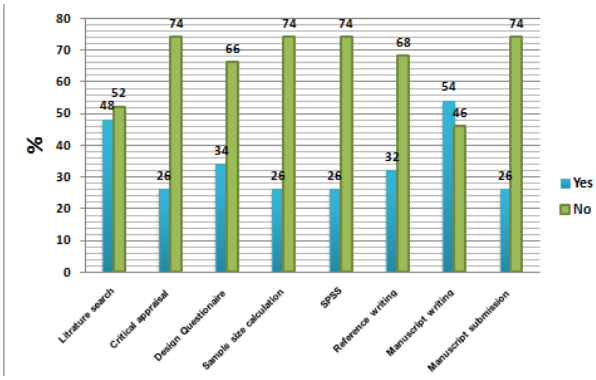

Figure No. 3: Percentage of the participants in respect to their research skills

DISCUSSION

The data shows that the participants have a lacking when it comes to writing a manuscript, these workshops however saw significant improvement in their knowledge when it comes to manuscript writing demonstrating the need for such types of workshops in the future. In a similar study conducted on students, postdoctoral trainees, and assistant professors, the participants learned progressively when it comes to the principle of clear, scientific writing and also went on to actively apply these principles[7]. A significant difference was seen when it came towards knowledge regarding what is plagiarism and how it can be avoided. Failure to reference words of another writer is considered to be plagiarism and is considered to be a form of cheating[8]. Plagiarism is becoming come due to the easy access of the internet and is widely considered to be the cause of retraction for publications[9]. Faculty members need to be taught about the significance of plagiarism and how it might affect their publications from not being accepted in reputable medical journals nationally and internationally. There isn't be significant reporting globally concerning plagiarism in low resource countries, however, it is argued that it may be prevalent in countries such as Pakistan due to "a general lack of information regarding plagiarism among medical students and faculty members"[10]. Referencing is also seen to be another thing that most of the participants weren't aware of before the workshops were conducted. This lack of referencing skills can also be seen in other studies in connection to the issue of plagiarism[11]. The art of avoiding plagiarism and writing proper referencing is a skill and this study can demonstrate that the participants are significantly lacking in both of these aspects of medical writing. Another study also highlighted the same two aspects showing that there is an issue of misconceptions and disagreements both among students and supervisors[12]. Although there was a significant enhancement in the knowledge of how to reference using the proper style of referencing, more workshops are required to enhance their skills concerning referencing. Overall, there was a lack of knowledge when it came to proper medical writing among the participants but after the workshop had concluded we saw a significant improvement regarding knowledge of scientific writing among the members. A similar study demonstrated the same thing that a development workshop can help to facilitate writing productivity and presentation of scholarly work in medical education, as participants of that study after the workshops went onto to submit 14 manuscripts into different publications (11 of them were accepted) and presented a total of 38 abstracts at educational conferences. More type of these workshops not just for faculty members but also for undergraduate students' is necessary so that they may develop timely skills when it comes to writing a good paper.

CONCLUSION

This study suggests that most of the faculty members of medical sciences don't possess adequate knowledge when it comes to writing a good medical manuscript. If workshops are conducted regularly and if proper knowledge and teaching are given to the members of the faculty, they will have a better opportunity in delivering medical literature that can be published in reputable journals. However, more studies need to be conducted in other universities to assess if their faculty is also aware of the fundamentals of scientific writing. The study results revealed the significant difference in pre and post analysis of faculty members, they are lacking in quality when it comes to knowledge and writing skills in scientific writing, however, if workshops are conducted regularly they will develop skills necessary to write better literature and submit their work in different publications for appraisal. Research excellence department should be established for the faculty development.

Author's Contribution:

Concept & Design of Study:	Hina Khan
Drafting:	Umer Kazi, Asad Raza Jiskani
Data Analysis:	Bushra Zulfiqar, Ghazala Panhwar, Erum Saboohi

Revisiting Critically:	Hina Khan, Umer Kazi
Final Approval of version:	Hina Khan

Conflict of Interest: The study has no conflict of interest to declare by any author.

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