Research Report

AN INTERACTIVE WORKSHOP ON WRITING AND PUBLISHING RESEARCH: REFLECTIONS AND LESSONS LEARNED

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ABSTRACT

Publishing research is an essential skill for health professionals. In India, few training programs are specifically aimed to improve scientific writing. We developed a two-day interactive training workshop to address the need of the researchers. Methods such as targeted Facebook advertising and sending emails to available collections of addresses were used to inform potential participants from diverse disciplines about the program. There were 48 participants from 15 disciplines. Half of them were females, and half were from Psychiatry. We reflected on the content and experience of the workshop and have summarized the lessons learned from it. The participants perceived the workshop to be useful and found the experience satisfying.

Keywords: scientific writing, publishing, workshop, interactive

INTRODUCTION

Publications are the proxy markers for the research output of health professionals. For the faculty, they are also an academic requirement for promotions and other incentives. Little formal training in scientific writing is available even in academic institutions. Writing papers is dreaded by many, especially young faculty. Because of this lack of training, the submitted papers are of poor quality and face rejections. Menon et al.[1] have identified several errors in the submitted manuscripts, ranging from methodological flaws to poor language. Therefore, there is a need for formal training programs to improve manuscript writing.

Although several courses on research methodology are around, very few courses on scientific writing for health professionals are available. Most successful researchers develop their writing skills by doing it themselves, without receiving any formal training.

However, because of inadequate training, most early researchers are reluctant to write. We developed a two-day interactive workshop where we were the organizers and resource persons to address this need. The workshop, whose theme was "Writing and Publishing Research Papers," specifically focused on early career professionals. It was held on January 4 and 5, 2020, at St. Thomas College of Nursing, Changanacherry, Kerala, India.

In this paper, we reflected on the conduct of the workshop. Specifically, we aimed to a) describe the planning and implementation of the workshop, b) evaluate the workshop using post-test and feedback

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from the participants, and c) identify strengths and weaknesses of the workshop and ways to improve it. Written or oral consent was obtained from all the participants through email or phone.

METHODS & RESULTS

Finding the participants

To facilitate active participation, the workshop was limited to the first 50 applicants. We did not opt for a smaller number, which would have necessitated a higher registration fee per participant. As we were not confident about getting 50 registrants from the field of mental health, we decided to invite researchers from all health disciplines.

Though it was effortless to reach the potential participants from Psychiatry and other mental health fields through various online groups of which we are members, reaching people in other fields was not easy. We created a website and a Facebook page for the workshop and linked the two. Then, a Facebook ad was created, targeting those who live in Kerala and come under any of the following three Facebook ads audience categories:

1. Demographics > Education > Fields of Study > Medical research
2. Interests > Additional Interests > Medical research
3. Demographics > Work > Job Titles > Research fellow

These criteria gave our ad a potential audience size of 60,000. However, scrutiny of the ad results revealed that it was reaching lots of irrelevant people. Hence, we discontinued the ad after spending Rs 1405/. (In the end, only one participant of the workshop came through the Facebook ads. We declined requests from researchers in unrelated fields such as law.)

We had access to two collections of relevant email addresses — when the first author had attended two workshops (one on journal editing and one on biostatistics) in the past, the organizers of those two workshops had sent group emails to all the participants, revealing all the email addresses to all the recipients. We collected those addresses and emailed our workshop's brochure to all of them, with a request to forward the same to their appropriate contacts. It is not clear how many participants were obtained through this method.

Participant characteristics

Eventually, 48 participants from 15 disciplines attended the workshop (Figure 1). Half of them were females, and half were from Psychiatry. The majority were faculty members (n=17), followed by those in clinical practice (n=14, Figure 2). Eight participants were from Tamil Nadu, and the remaining 40 were from Kerala.

A survey done at the commencement of the workshop revealed that 56% of the participants had not attended any day-long workshop on research before, 55% did not have any prior publication experience, and 52% were currently working on a manuscript and intended to submit it for publication in the coming two months.

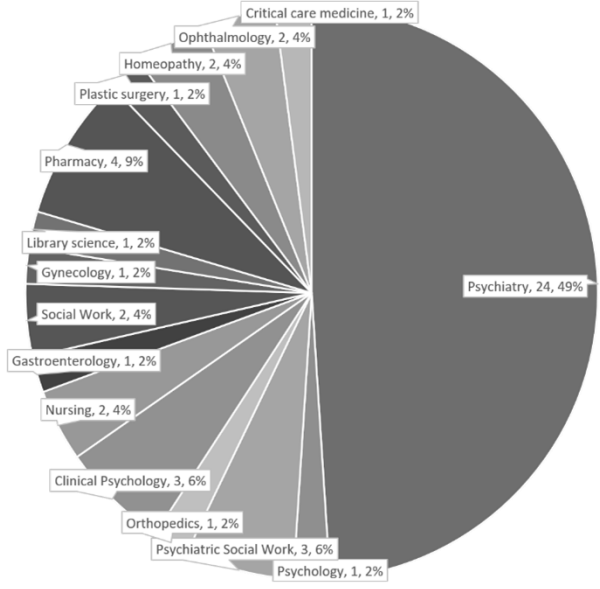

Figure 1: Disciplines of the 48 participants, with n and %

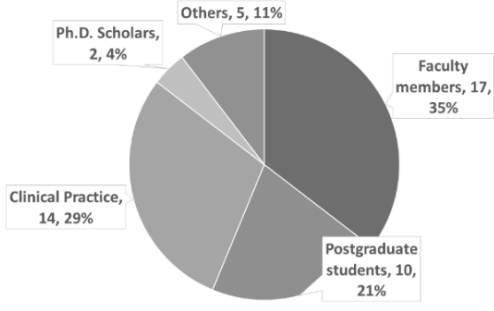

Figure 2: Current positions of the 48 participants, with n and %

Workshop description

The content included the basic structure and components of manuscripts and how to write each

section. Language aspects, the editorial and peer review process, and the ethical aspects of publishing were discussed from the author, peer reviewer, and editor perspectives. The modules were organized into less-than-an-hour sessions (Table1). Several within-session questions were embedded in our slides, using the AhaSlides, (https://ahaslides.com/), a website that helps conduct interactive presentations. The participants accessed the website using their smartphones and answered the questions anonymously, in real-time. To facilitate this, a wi-fi facility was provided in the venue. Handouts that included summaries of the modules were distributed, too.

Table 1: Content of the workshop

Topic	Duration
Day 1	
1. Introduction	45 mins
2. How to Share your Methods	45 mins
3. How to Present your Results	45 mins
4. Creating Effective Tables and figures	45 mins
5. How to Write the Discussion	45 mins
6. Title, Abstract, Keywords	45 mins
Day 2	
7. How to Search the Internet for Medical Literature	50 mins
8. How to avoid Common Language Errors	50 mins
9. References, acknowledgement, conflict of interest, data sharing statement	30 mins
10. How to Convert your Thesis to Research Paper	30 mins
11. How to Face the Peer Review Process	30 mins
12. What do editors expect	20 mins
13. How to Select a Journal for Submission	25 mins
14. How to Write a Case report	30 mins
15. Ethical aspects of Scientific Publishing	30 mins

Customizing the content

Though half of the participants were from Psychiatry, the remaining were from diverse medical specialities and even fields like pharmacy and homoeopathy and non-medical fields such as sociology, psychology, and library science. Hence, examples to illustrate various points were chosen with sufficient care. Though examples from psychiatry were the most used, jargons of the speciality were avoided, and only well-known terms such as "depression" and "schizophrenia" were used. Likewise, even the other medical conditions chosen for the purpose of examples were diabetes, hypertension, head injury, snake bite, and the like.

Group session

There was a breakout session. We divided the participants into nine groups before the commencement of the workshop. Care was taken to include persons of different disciplines and experience levels in each group. Stickers of nine different colours representing the group to which they are allotted were pasted on the files distributed to each participant.

Figure 3: How the participants were divided into nine groups and the sections allotted to them for critical analysis

Two research papers were selected so that one group can critically evaluate, from a scientific writing perspective, the introduction, methods, results, or discussion section of one of the articles: the remaining one group, the titles and abstracts of both the articles (Figure 3). The topics of the two articles were carefully chosen to ensure legibility to participants from diverse disciplines. One was on the quality of life in patients with diabetes mellitus, and the second, on what medical students think about the relevance of courses on epidemiology and biostatistics. Both the articles were emailed to the participants a few days before the workshop, with a request to all of them to go through both the articles.

The workshop was so scheduled that all sections of the IMRaD format were covered on day one. The group Session was held on day two. At the close of day one, the participants were suggested to check their respective files to find out to which group they belonged. The task for each group, too, was revealed then only. These two steps were intended to ensure that all of them paid sufficient attention to all the sessions and not just the one on the section their group will be handling. On day two, after the discussions among members of each group, one group member presented their findings to the whole team.

Workshop evaluation

We administered ten questions before the workshop (pre-test) and ten questions after the workshop (post-test) using AhaSlides. The questions were different for pre-test and post-test but were of similar difficulty levels. The correct responses ranged from 15.4 to 74.4% for the pre-test questions, whereas, for post-test questions, it ranged from 32.1 to 82.1% (Table 2). Overall, the proportion of correct responses were higher during the post-test as compared to the pre-test questions. Immediate real-time feedback was given to the participants as summary graphs, which were followed by discussions.

At the end of the workshop, the perception of the participants was obtained. Almost all rated the workshop as useful and were satisfied with the modules. We also received positive comments on the Facebook page of the workshop (Table 3).

Strengths and weaknesses of the workshop

The workshop was prepared in a structured manner, and at the same time, had the flexibility to accommodate changes during each session. The timings were adhered to, though not rigidly, so that discussions could happen. Several interactive elements, including the AhaSlides, were used to provide real-time feedback. Collecting responses through the website resulted in the active participation of all, including shy members. A mix of senior and junior participants resulted in better discussions. Senior members with prior publication experiences shared useful examples to illustrate various points. The workshop was organized during the weekend, starting on a Saturday afternoon. Thus, it was timed well to facilitate participants from different states to travel without much disruption of their work schedule.

The downside was a large group of participants, thus limiting the effective engagements of all during the discussions. This was minimized to some extent by the

Table 2: Proportion of correct answers during pre-test and post-test

Questions	Pre-test			Post-test		
	N	n (%)	95% CI†	N	n (%)	95% CI†
1	40	21 (52.5)	37.5 – 67.1	20	16 (80)	58.4 – 91.9
2	40	20 (50)	35.2 – 64.8	40	29 (72.5)	57.2 – 83.9
3	40	15 (37.5)	24.2 – 52.9	39	30 (76.9)	61.6 – 87.3
4	41	21 (51.2)	36.4 – 65.7	39	19 (48.7)	33.9 – 63.8
5	37	18 (48.6)	33.4 – 64.1	51‡	29 (56.8)	43.3 – 69.5
6	39	29 (74.4)	58.9 – 85.4	38	24 (63.2)	47.3 – 76.6
7	40	7 (17.5)	8.7 – 31.9	34	13 (38.2)	23.9 – 54.9
8	39	24 (61.5)	45.8 – 75.1	38	19 (50)	34.8 – 65.1
9	39	6 (15.4)	7.2 – 29.7	37	13 (35.1)	21.8 – 51.2
10	39	14 (35.9)	22.7 – 51.6	39	32 (82.1)	67.3 – 91.0

Note: Pre-test and post-test questions were not same, but of similar difficulty level; †Wilson score interval; ‡ Multiple responses were allowed for this question

Table 3: Comments about the workshop on our Facebook page

1	"I have been waiting for a workshop like this, as I was truly clueless about how to convert my thesis into papers for publishing. The workshop was very well organized, and every single moment was enriching enough to satisfy the needs of the participants. The idea to use Ahaslides for conducting tests and asking questions was wonderful. That kept everyone alert and lively throughout the sessions."
2	"One can easily learn research methodology and statistics from books, but to learn how to write efficiently and effectively is tough. With the tips and expert advice from Dr Shahul and Dr Samir, we now feel that writing research papers can be done by students even. Not just that, they made the experience so much more fun with all the quizzes and jokes that I'd recommend the classes any day!"
3	"Attended the workshop by two enthusiastic academicians ... maestros in the field.... would recommend for anyone keen on research writing."

discussions. This was minimized to some extent by the use of AhaSlides, an audience response system (ARS). Time constraints also limited stretching the discussions beyond a certain point. Despite our best effort, the participants being from diverse backgrounds, the examples from the medical field might have limited the understanding for some. Many participants, in their feedback, highlighted the lack of hands-on sessions in which they actually prepare various sections of a manuscript in real-time.

Suggestions for future workshops

The participants for these kinds of workshops could be from diverse backgrounds that facilitate generating more ideas and discussion. To understand the training requirements, a needs assessment survey could be carried out. The workshop content and the level could be modified accordingly to meet the expectation of the participants. A good workshop is possible with meticulous planning. Small details need to be worked out beforehand to avoid last-minute issues.

DISCUSSION

The workshop was successful, as judged by the active participation during the two days. Also, the feedback we received was positive. Several workshops and other programs have found positive perceptions of the participants and improved writing skills.[2-8] However, the evidence for the effectiveness of training programs for publication writing is limited, as reviewed by Galipeau et al.[9] discussions. This was minimized to some extent by the use of AhaSlides, an audience response system (ARS).

Our workshop included several essential components of scientific writing, as mentioned in Barroga and Vardaman.[10] Basic components of the manuscript and how to write each section, with examples, were included. Also, basic grammar usage and scientific style, with examples from published literature, helped the participants. Various perspectives taken by the presenters (of the author, peer reviewer, and editor) clarified the publication process.

The use of an ARS enhances interactive learning.[11] Our participants responded to the questions on their smartphones, using AhaSlides, which helped real-time assessment and feedback. Such online technologies have been found to improve the learning experience, and the perceptions are generally positive.[12] Our participants also reported positive experiences with this activity (e.g., "The idea to use AhaSlides to conduct tests and ask questions was wonderful").

Assessment during the teaching activities enhances learning. In fact, assessment for learning, or formative assessment, has gained more prominence than assessing learning or summative assessments.[13] Feedback based on direct observation of learner performance and originating from a trusted source is considered credible and enhances learning.[13] Incorporating assessment and feedback in the workshop setting was helpful in this regard.

Limitations included single educational intervention and subjective evaluation that precludes generalization. Also, the sample was small. As this program was organized by the authors, subjective bias is a possibility.

Nevertheless, the use of reflections to understand the strengths and weaknesses of the program will help improve it further.

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