

Training Course on Scientific Writing (7th – 11th June, 2010)

REPORT

Jointly Organized by



आरोग्यम् सुखसम्पदा

**Deptt. of Community
Health Administration
National Institute of Health
& Family Welfare,
New Delhi**



**Deptt. of Community Medicine
Vardhman Mahavir Medical
College & Safdarjung Hospital,
New Delhi**

Training Course on Scientific Writing (7th – 11th June, 2010)

Course Coordinating Team

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Course Coordinators	:	Dr. M. Bhattacharya Dr. Deepak K. Raut
Course Co-coordinators	:	Dr. Renu Shahrawat Dr. Meerambika Mahapatra
Course Associates	:	Mrs. Vinod Joon Mr. Subhash Chand



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INTRODUCTION

A critical aspect of the scientific process is the reporting of new results in scientific journals in order to disseminate information to the larger community of scientists. Communication of the results contributes to the pool of existing knowledge. Often it provides scientific knowledge for future research. Communicating research findings in peer reviewed journal is a prerequisite skill for every public health personnel. This Scientific Writing Training Course is designed to help health professionals to document their research work. The learnings from the workshop will upgrade their skills to effectively communicate their research findings.

OBJECTIVES

- Evaluate the current skill level, determine strength & weaknesses and focus efforts on improving every aspect of scientific writing.
- Describe major differences between strong and weak research writing
- Illustrate the process of writing research documents more efficiently;
- Demonstrate and write various sections of the scientific paper precisely; and
- Able to critically examine research document & provide feedback.

COURSE CONTENTS

- Draft manuscript
- Argument Matrix
- Writing Style
- Writing Title, Abstracts, Methods, Table, Figures,
- Results and Discussion
- Authorship and Ethics

PROCEEDINGS OF THE COURSE

Day 1

The workshop was inaugurated by Prof. Deoki Nandan, Director, NIHFV. In his welcome address he stated about importance of scientific communications. He said that scientific research is not the main agenda at medical and nursing institutes. Even dissertation for postgraduate degree is not taken seriously as part of scientific work. There is a need for proper scientific work to be done at various medical Institutes. This workshop aims to fulfill that gap.

This was followed by introduction to the workshop objectives by Prof. M. Bhattacharya, Dean, NIHFW and Coordinator of the workshop.

The next session was taken by Dr. D.K. Raut, Professor & Head, Department of Community Medicine, Vardhaman Mahavir Medical College and Coordinator of the course. He familiarized the workshop participants with the draft manuscript which was the template, on which the participants worked through out the workshop self-reading of draft manuscript followed this. After the reading of manuscript was over Dr. D.K. Raut explained how to construct an argument in a scientific manuscript with help of Argument Matrix.

The 1st afternoon session was taken by Dr. Stacie M. Greby from Centers for Disease Control and Prevention. She described how to prepare on outline of manuscript. She introduced the concept of IMRAD to workshop participants to help them formulate the manuscript outline in a structured manner.

On the 2nd afternoon session, the participants worked in four groups to construct an argument based on the draft manuscript provided. They also prepared an outline of draft manuscript that was discussed step by step by concise facilitators.

Day 2

The Technical Session was a presentation on methods, tables and figures. Dr Renu Garg, WHO SEARO presented the chapter. Dr. Garg presentation gave an outline to make familiar with the essential elements of methods which would help the participants to develop the method section of the manuscript. The details of the method section was elaborated with the goal to describe how to do the study so that it could be replicated, the reader can understand the representativeness of the sample and weaknesses and strengths of the study can be determined. The session was followed by group work. All the four groups prepared the method section from the draft manuscript in light of discussion and presented.

In second session, Dr. Garg's presentation was on tables and figures with an objective to acquire skills in preparing tables and figures of a manuscript. The important points of the session were that any Table or Figure must be sufficiently clear, well-labeled, and described by its legend to be understood *without* reading the results section. The participants worked in small four groups to edit/recreate the tables and figures of the draft manuscript and presented.

Post lunch session was on Ethical issues, and authorship in scientific writing. The lecture was delivered by Dr. Peush Sahni from AIIMS, with an

objective to make the participants familiar with issues related to authorship, plagiarism and scientific misconduct and its serious consequences.

Day 3

Third day session was on the preparation of result section of the manuscript. Dr. D.K. Raut, WMC, presented on the major existential question for the results section and the extract from the table to be mentioned in the text. The participants worked in small group to reviews the result section of the typhoid outbreak from the draft manuscript.

The second technical session was on Introduction section of the manuscript. Dr. Stacie M. Greby, CDC/GAP, delivered the lecture with an objective to understand the purpose and development of the Introduction section of a manuscript. Dr. Stacie, elaborated the outline and essential elements of the introduction section and the participants worked in small groups to review the introduction section of the draft manuscript and presented which was followed with the discussion.

In the third technical session, Dr. M. Bhattacharya, NIHFW, presented on communication with journal editor with an objective to handle comments, suggestions and peer-reviewer comments to obtain acceptance in a peer-review journal.

Day 4

The Technical Session started with discussion section of manuscript. Dr Rakesh Aggarwal, SGPGIMS gave an outline of the section which included, the main findings of the result section, contract and contrary to the evidence based information available, the implication, limitation and the conclusion. The lecture was delivered with various examples, quotes from his own publications on each sub-section of the discussion section. The lecture was followed with group work where the participants reviewed the draft manuscript. The group presentation was discussed and debated.

The second technical session was on limitation. Dr Rakesh Aggarwal, focused on various issues to be dealt with limitation that included, internal and external validation, differential and non-differentials etc.

The third technical session was on style of writing Dr. Bandana Malhotra, Freelance Editor & Managing Editor Byword Editorial Consultants, delivered an important aspect of scientific writing. She stressed on language, style of writing and correct usage of words. She explained the minor usage of words which is commonly misused and confused with many examples.

The fourth technical session was on Title, Key words and references. Dr. Peush Sahni, AIIMS, delivered the lecture with an objective to write a title, identify keywords and list references. He focused on to map out the keywords to write a title. He elaborated both the style of references and use of end notes.

Day 5

On 5th day of workshop Dr. Stacie M. Greby explained how to write an abstract. She explained the sections of final manuscript to be given due emphasis on the abstract of a scientific paper. She also stressed the need to keep the word limit while preparing an abstract.

The participants in groups prepared an abstract. This abstract was based on the final modified manuscript that had taken shape after undergoing various modifications of the draft manuscript. The prepared abstract was presented. Dr. Stacy suggested ways of further polishing the abstract.

This was followed by valedictory session. The workshop ended with the vote of thanks.

Day wise programme schedule is given in Annexure-I

DURATION

Five days (7 - 11 June, 2010)

NUMBER OF PARTICIPANTS

18 Participants (Annexure-IV)

NATURE OF PARTICIPANTS

Faculty members from government & private Medical Colleges who have five research publications.

TRAINING OUTCOME

At the end of the course participants were:

1. improved their own scientific writing skills;
2. developed an aptitude to use peer-review comments in writing.

EVALUATION FINDINGS

17 out of 18 participants completed the questionnaire.

1. What participants liked the most about the workshop

Almost everyone appreciated the expertise, hard work and commitment of the facilitators. Participants also liked interactions with peers, team work, group work followed by detailed discussions, participatory learning, and the use of a real manuscript for learning. Selected responses are quoted below:

“Facilitators really knew what they were talking about”

“Facilitators are credible”

“Facilitators were so kind and very experienced”

2. Workload of the workshop

Almost everyone responded that the workload was just right. Only one person found the course to be too light.

3. Writing skills learned from the workshop

The argument matrix was the most frequent response. The other frequent responses were writing the limitations, writing the abstract, and information about publishing process. Being focused, precise, and writing to the point were also mentioned by some participants.

4. Teaching skills learned from the workshop

This question had the maximum responses including: informal style of teaching, use of local/real manuscript, peer-to-peer learning, moderator-led practical sessions, hands-on teaching, varying teaching methods everyday, handling questions, using powerpoint effectively, making the class room atmosphere lively with anecdotes, and a professional approach to teaching. Selected responses are quoted below:

“Teach by example”

“Be attentive to participants needs”

“Not to superimpose one’s own ideas/egos on participants”

“Acknowledge viewpoint of the fellow facilitators”

5. Most useful type of session

Half the participants (9/17) found a combination of lectures, group work and moderator-led sessions to be most useful. Three participants marked moderator-led sessions as the most useful methods; the rest marked a combination of two teaching methods.

6. Time allotted to each topic

For most participants, the time allotted to each topic was just right. Two participants responded, the sessions were too long.

7. Topics/areas participants would have liked to learn more about

Fourteen participants provided 31 responses. Half the responses (14/31) were related to research methods or data management (framing research questions, study design, research protocol, biostatistics, data analyses, interpretation and presentation). Three respondents wanted to learn more about writing up the discussion section. The other topics that participants wanted to learn more about were language skills, references and ethical issues.

8. Feelings about conducting a similar workshop

Most participants felt confident about conducting the workshop on their own. Three wanted help/guidance to conduct a similar workshop in their setting. Three participants could not wait to do one. Only one responded needing more training for conducting a workshop.

9. How to improve the course

Participants provided a variety of suggestions. A frequent one was to make the course more intensive by giving homework and asking participants to work on individual manuscripts. The other suggestions were: make it an annual event, allocate more time for group work, divide participants into smaller groups and provide more mentoring; provide more examples of good and bad papers/case studies. Participants wanted the CD with reference materials and the draft manuscript to be circulated before the workshop. Two participants felt that the workshop was too long and could be cut by 1-2 days.

Annexure-I**Programme Schedule of Training Course on Scientific Writing
7th -11th June 2010**

Day 1: Introduction to the course, Preparing a detailed outline of the manuscript			
Time	Activities	Broad learning objectives	Presenter
09.00-09.30	Welcome, introductions and opening remarks		Prof. Deoki Nandan, NIHFW
09.30-10.00	Introduction to the workshop	<ul style="list-style-type: none"> Understand the objectives and methodology of the workshop 	Prof. M. Bhattacharya, NIHFW
10.00-10.30	Importance of scientific communications	<ul style="list-style-type: none"> Understand the need and purpose of publishing research 	Prof. Deoki Nandan, NIHFW
10.30-11.00	Presentation of a summary of the draft manuscript	<ul style="list-style-type: none"> Become familiar with the draft manuscript that will be converted into a improved version at the end of the workshop 	Dr. D.K. Raut, WMC
11.00-12.00	Participants individually read the draft manuscript	<ul style="list-style-type: none"> Become familiar with the draft manuscript 	Self reading
12.00-13.00	Presentation of the argument matrix	<ul style="list-style-type: none"> Become familiar with how to construct an argument in a scientific manuscript 	Dr. D.K. Raut, WMC
13.00-14.00	Lunch		
14.00-16.30	Participants work in small groups to construct an argument in a scientific manuscript and prepare a detailed outline	<ul style="list-style-type: none"> Acquire skills in constructing a blue print of a scientific manuscript 	All Facilitators
16.30-17.30	Preparing an outline of a manuscript	<ul style="list-style-type: none"> Become familiar with preparing a detailed outline of a scientific manuscript 	Dr. Stacie M. Greby, CDC/GAP Office

Tea breaks of 15 minutes in morning and evening

Day 2: Writing Methods, Table and Figures			
Time	Activities	Broad learning objectives	Presenter
09.00-09.45	Presentation on methods	<ul style="list-style-type: none"> • Become familiar with the essential elements of methods 	Dr. Renu Garg, WHO SEARO
09.45-12.15	Participants work in small groups to edit/rewrite the methods section of the draft manuscript	<ul style="list-style-type: none"> • Acquire skills on writing the methods section of a manuscript 	All Facilitators
12.15-13.00	Presentation on Tables and Figures	<ul style="list-style-type: none"> • Become familiar with important features of tables and figures 	Dr. Renu Garg, WHO SEARO
13.00-14.00	Lunch		
14.00-16.00	Participants work in small groups to edit/recreate the tables and figures of the draft manuscript	<ul style="list-style-type: none"> • Acquire skills in preparing tables and figures of a manuscript 	All Facilitators
16.00-17.30	Ethical issues, and authorship in scientific writing	<ul style="list-style-type: none"> • Become familiar with issues related to authorship, plagiarism, scientific misconduct etc. 	Dr. Peush Sahni, AIIMS, Delhi
Day 3: Writing Results and Introduction			
Time	Activities	Broad learning objectives	Presenter
09.00-09.45	Presentation on results	<ul style="list-style-type: none"> • Become familiar with the essential elements of results section 	Dr. D.K. Raut, WMC
09.45-12.15	Participants work in small groups to edit/rewrite the results section of the draft manuscript	<ul style="list-style-type: none"> • Acquire skills on writing the results section of a manuscript 	All Facilitators
12.15-13.00	Presentation on introduction	<ul style="list-style-type: none"> • Become familiar with the essential elements of introduction 	Dr. Stacie M. Greby, CDC/GAP Office
13.00-14.00	Lunch		
14.00-16.30	Participants work in small groups to edit/recreate the introduction of the draft manuscript	<ul style="list-style-type: none"> • Acquire skills in writing the introduction of a manuscript 	All Facilitators
16.30-17.30	Communications with journal editor	<ul style="list-style-type: none"> • Participants will become familiar with how to write a covering letter, and how to respond to reviewer's comments 	Dr. Peush Sahni, AIIMS, Delhi

Tea breaks of 15 minutes in morning and evening

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