

**ASEAN+3 FETN**

**Scientific Writing Workshop**

**LECTURE 7 MANSUCRIPT ABSTRACTS**

**Presented by Dorothy L Southern, MPH**



# Objectives

- To know the format of an **Abstract**
- To use tips and tools to review a sample abstract
- Writing Time: develop or revise your draft manuscript's **Abstract**

# Abstract for a conference

- Objective
  - Gain acceptance to present at a conference
- Circumstances
  - May be written before completion of final report
  - May be based upon preliminary analysis

# Abstract for a manuscript

- Objective
  - Summarize key elements of manuscript
- Circumstances
  - Written after completion of manuscript
  - Based upon final analysis
  - Presented in electronic databases (e.g., PubMed or Medline)
  - May be the only thing that will be read

# Characteristics of a good abstract

- Short
- Summarizes the research study
- Demonstrates that the results are important and the study was scientifically valid
- Stands on its own

# Unstructured vs Structured

- Sub-headings introduced in the 1980's
- Found to be more informative and accessible
- Increased audience understanding

# Unstructured abstract

Little information is available on the knowledge about scientific writing among Indian medical teachers. We administered a 10-point questionnaire to test knowledge about scientific writing among participants attending a writing workshop. 32 medical teachers participated. Of these, only 20 (63%) achieved a score of 50% or above. The younger participants (aged  $\leq 30$  years) scored worse than the older participants (aged  $\geq 30$  years). The average scores in the younger group was  $6.5 \pm 1.5$  and in the older group was  $4.5 \pm 1.7$  (t-test;  $p < 0.05$ ). Indian medical teachers lack skills in medical writing, especially those  $\leq 30$  years old. Further training to improve their skills is needed.



# Structured abstract

**Background:** Little information is available on the knowledge about scientific writing among Indian medical teachers.

**Methods:** We administered a 10-point questionnaire to test knowledge about scientific writing among participants attending a writing workshop.

**Results:** 32 medical teachers participated. Of these, only 20 (63%) achieved a score of 50% or above. The younger participants (aged  $\leq 30$  years) scored worse than the older participants (aged  $\geq 30$  years). The average scores in the younger group was  $6.5 \pm 1.5$  and in the older group was  $4.5 \pm 1.7$  (t-test;  $p < 0.05$ ).

**Conclusion:** Indian medical teachers lack skills in medical writing, especially those  $< 30$  years old. Further training to improve their skills is needed.

# Developing a Successful Abstract



4 Easy Steps

# Step 1

## *What Are Your Major Results?*

- **Results**
  - State the major findings, key quantitative results, trends
    - Choose the most important result, but no more than three
    - Include raw data such as percentages, confidence intervals (CI), odds ratios (OR), p-values, or whatever statistical analysis is important
    - Identify trends, relative change or differences

# Results: The Checklist

- Must NOT include any new Background or Methods
- Must NOT include any interpretation about the results
- Must *usually* include N *and* %, (*not just N, not just %*)
- Do not use words like 'most', 'majority', without an N and/or %

# Step 2

## *What Are Your Conclusions?*

- **Conclusions**
  - **Broad statement interpreting your results**
    - How they link to your objective
    - Answers the question, ‘What does this mean for public health? How can the results help people understand the problem?’
  - **Practical recommendations and/or next steps in research**

# Conclusions: The Checklist

- Summarize, but do NOT repeat results
- Do NOT introduce new background or results
- ONLY include conclusions that are supported by the results you presented
- ONLY include recommendations that directly pertain to reported results

# Step 3

## *How Have You Done This Work?*

- **Methods**
  - State the basic design of the study
    - Basic methodology used without too much detail
  - Indicate the key techniques used
  - For each result, check that you have included a corresponding method

# Methods: The Checklist

- Must include one method for every result described
- Must NOT include methods for results NOT described
- Must NOT include any new background
- Must NOT include any results



## Step 4

# *Why Have You Done This Work?*

- **Background/Introduction**
  - Provide concise information directly related to your objectives and motivation
  - Last sentence should be a clear statement of your objective

# Background: The Checklist

- Must include time and place
- Must 'set the stage' for the rest of the abstract, including the conclusion
- Include only 'need to know', not 'nice to know'
- Must include the 'so what' factor
- Must NOT include any methods, results, or conclusions

# Writing abstract 'Do's'

- Only use necessary, understood common abbreviations
- Define new terms, symbols
- Remove needless words, sentences
- Make sure your numbers add up
- Use past tense

# Writing abstract 'Don'ts'

- Don't repeat title
- Don't include or refer to tables or figures
- Don't include references
- Don't use trademarks or manufacturers' names

# ***NOW, how can you keep to the word limit?***

- **Rewrite for Brevity, Clarity and Conciseness**
  - Be short, clear and concise
    - Eliminate unnecessary words
    - Use short, familiar words
    - Do not use jargon, terminologies, or references
    - Use simple sentence structure
  - Do not sacrifice clarity for brevity

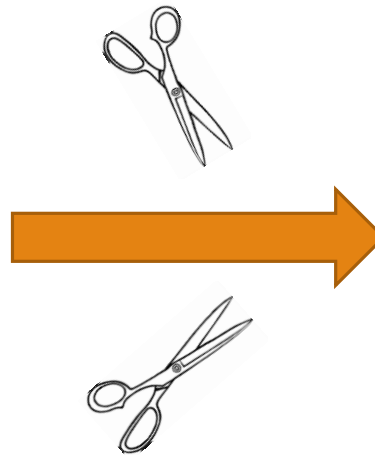
# Tips for a shorter abstract

- Use active voice (100% of time)
- Use simple past tense (we searched, NOT we were searching)
- Use verbs not nouns (we investigated NOT we conducted an investigation of)
- Use hyphens (HIV-infected children NOT children infected with HIV)

# Economy of Words

keep you on with  
and we would  
**TELEGRAM**  
Dear sir,  
We regret to  
inform you that,  
due to budget  
cuts and items  
outside of our  
control, we must  
take the step of

Word count: 81



**TELEGRAM**  
Dear sir,  
Your services are  
no longer  
needed.  
  
Sincerely,  
Your boss.

Word count: 11

# Economy of words



Reduce word count without reducing content or meaning

- Common tips and tricks
- Saying the same thing with less



# 1. “In order to”

- “In order to determine the prevalence of measles vaccination among children <2 years of age, we interviewed mothers in Village Y. (20 words)
  - → “To determine the prevalence of measles vaccination among children <2 years of age, we interviewed mothers in Village Y (18 words)
- We interviewed cases and controls in order to determine factors associated with salmonellosis. (13 words)
  - → We interviewed cases and controls to determine factors associated with salmonellosis. (11 words)

## 2. “As well as”

- Persons in Village Y as well as Village X were affected.  
(11 words)
  - → Persons in Village Y and Village X were affected. (9 words)
- As well as men, women were also at increased risk for tuberculosis. (12 words)
  - → Men and women were both at increased risk for tuberculosis.  
(10 words)

### 3. “Greater/less than (or equal to)”

- Children aged less than or equal to five years were the most commonly-affected group. (14 words)
  - → Children  $\leq 5$  years were the most commonly-affected group. (6 words)
- Persons with a BMI of less than or equal to 25 had three times higher risk of death within one year, compared with persons with BMI of 26 or higher. (30 words)
  - → Persons with a BMI  $\leq 25$  had three times higher risk of death within one year, compared with persons of BMI  $\geq 26$ . (19 words)

## 4. Using active vs passive voice

- Verbal consent was given by patients. (6 words)
  - → Patients verbally consented. (3 words)
- It was determined that men were more likely than women to suffer hypertension. (13 words)
  - → Men were likelier than women to suffer hypertension. (8 words)
- It can be concluded that the treatment was effective. (9 words)
  - → The treatment was effective. (4 words)

## 5. Removing spaces around mathematical operators

- OR = 3.2 (95% CI = 2.6 – 3.4) (9 words)
  - → OR=3.2 (95% CI=2.6–3.4) (3 words)
- Children < 5 years (4 words)
  - → Children<5 years (2 words)
- n = 3 (3 words)
  - → n=3 (1 word)

## 6. Eliminating decorative words

- Reducing smoking greatly reduced the risk of lung cancer (9 words)
  - → Reducing smoking reduced the risk of lung cancer (8 words)
- Increasing distance between home and the clinic lead to a large reduction in adherence to scheduled visits (18 words)
  - → Increasing distance between home and the clinic reduced scheduled visit adherence (11 words)

- Accessibility and use of Antiretroviral Therapy (ART) has greatly improved the quality of life as well as reduced death among persons living with HIV/AIDS (24 words)
- → Antiretroviral therapy (ART) has improved life quality and reduced death among HIV-infected persons (13 words)

## 7. Strong verbs

- “We conducted an investigation to....” (5 words)
  - → “We investigated...” (2 words)
- “We aimed to determine / evaluate....” (4 words)
  - → “We evaluated...” (2 words)
- “There have been no studies that have shown...” (8 words)
  - → “No studies have shown...” (4 words)



# Handout

Tips for writing an abstract



# **Exercise: Revising an abstract**

1. Revise the abstract provided by the facilitator
2. Use all the tips presented in this session to write for **Brevity, Clarity and Conciseness**
3. Check your changes with Version 3 of the abstracts provided by the facilitator

# Handout

Checklist for evaluating an abstract





# Writing Time



- Develop your draft manuscript's **Abstract**
- Use the checklist to review your **Abstract**
- Use all the tips presented in this session to write for Brevity, Clarity and Conciseness