The Second Session of Scientific Webinar:
Writing a Scientific Paper

چگونگی نگارش مقاله علمی

دکتر مهدی مشکی

استاد تمام رشته آموزش بهداشت و ارتقاء سلامت

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PROF. M
MOSHKI ★

Key Topics

1. Why writing & why publishing?
2. What is a scientific article?
3. What are the scientific articles types?
4. What is the original article?
5. What are the original article sections?
6. How to write and publish an article?

بپذیریم که:

◄ ننوشتن بهتر از بد نوشتن است

◄ کم نوشتن بهتر از زیاده نوشتن است

◄ کوتاه نوشتن بهتر از طولانی نوشتن است

◄ واضح نوشتن بهتر از مبهم گویی است

WHY WRITE? WHY PUBLISH?

Writing is a way of life in science:
- **Search for knowledge & understanding**
- **Ideas & hypothesis testing**
- **Accurate records**
- **Challenge & Debate**

It Develops our Body of Knowledge.

چرایی مقاله نویسی، چاپ و انتشار آن

- نزدیک شدن اندیشه و عمل
- انتقال مهارت و دانش خود به دیگران
- به جا ماندن اثر و اندیشه
- بیان مسائل و مشکلات موجود
- ورزیدگی در نگارش
- مطرح کردن و شناساندن توانایی های خود به دیگران

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- صیقل خوردن دانسته های ذهنی و رفع نواقص آن
- رشد ایده های نو و ایجاد انگیزه پژوهش بیشتر در آن زمینه
- رشد و گسترش آگاهی های انسان/ تولید دانش
- شهرت و معروفیت
- کسب درآمد
- کسب لذت و خوشنودی از نوشتن

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Anxiety in the publish or perish ???!!!

Publishing is the main source of validation of one's research, and often the key indicator of academic success.

Write with the Reader in Mind

Who is the reader?
- **Editor, reviewers**
- **Scientists and professionals**
- **Students**

Assumptions:
- **They are all busy, with little time**
- **They prefer to read clear**

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What is a scientific article?

- *A scientific article presents research results and is written by researchers and aimed at an academic readership. The article must have been reviewed by experts within the same subject area before publication*

- Scientific articles can be divided into different types:

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What are the General Article Types?

Materials published in journals may be classified into a variety of categories, include:

. Original article
. Brief report (Short Communication OR Study)
· Case report
• Review articles
· Letter to the editor
. Editorial
. Study Protocol
. Debate
. Commentary
• Technical note
· Pictorial essay
• Conference Reports
• Others
· Non- scientific material

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Original Article

- This is the most important type of paper.

- It provides new information based on original research.

- This category of paper is usually supported by in-depth statistical analysis.

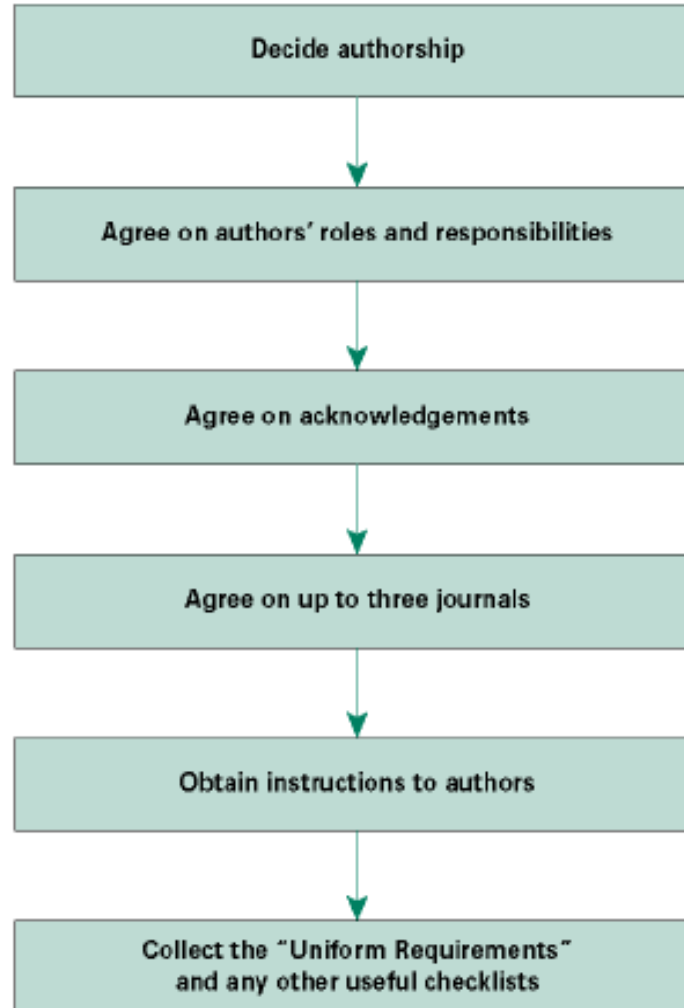- The conclusions should be supported by the data provided in the results.

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Original Article

- An original article is a written and published report describing original research results.

1. It must be the first publication of original research results,

2. Peers of the author can repeat the experiments and test the conclusions, and

3. In a journal or other source document readily available within the scientific community.

Initial steps

1-Understand the type of manuscript you are writing.

2-Re-evaluate your project.

3-Plan the sections and subsections you need.

4-Match your content to your readers' knowledge.

5-Keep information specific rather than general.

6-Write in plain language. Keep your sentences short.

7-Use tables, diagrams, flowcharts and graphs.

Politics first!

Decide authorship
↓
Agree on authors' roles and responsibilities
↓
Agree on acknowledgements
↓
Agree on up to three journals
↓
Obtain instructions to authors
↓
Collect the "Uniform Requirements" and any other useful checklists

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Structure of a Paper

Scientific writing follows a rigid structure.

A format developed over hundreds of years. Consequently, a paper can be read at several levels:

- Some people just will refer to the title
- Others may read only the title and abstract
- Others will read the paper for a deeper understanding

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A good paper has content, structure and style.

Basic structure of original article based on ICMJE Recommendations is _IMRaD._

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Scientific Writing Style

- **Factual, literal & unemotional vs metaphorical & poetic**
- **Precise vs ambiguous**
- **Concise vs repetitive**
- **Formal vs conversational**

Note specific styles (Italics/bold for headings; Hours/hrs; Fig/Figure and other special features)

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IMRAD

Basic Structure of original article:

Introduction (Background/ Problem statement/ Introduction & Aim)**:**
Why did we start?

Method (Materials & Methods/Subjects and methods/Patients or Participants
and Procedure/ Methodology)**: What did we do?**

Results (Findings)**: What did we find?**
and
Discussion (Discussion & Conclusions)**: What does it mean?**

- **Acknowledgements**
- **References**

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Review /original articles should be divided into the following sections:

- - Title page
- - Abstract (with Key words)
- - Introduction (Background & Review)
- - Methods
- - Results
- - Discussion & Conclusions
- - Acknowledgements
- - References

ان، نام و مشخصات
ندگان

ده (خلاصه)

ه (زمینه و پیشینه)

ن (مواد و یا شرکت
ان، نوع مطالعه، روش
ه گیری و جمع آوری
ات)

ه ها (نتایج)

و نتیجه گیری

انی و سپاس

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TITLE PAGE

- It should contain the following information:

- Title: The full title of the paper without abbreviations.

- Shortened running title

If the title is long (more than 80 characters and spaces), a shortened running title having no more than 50 characters and spaces should be provided.

- Full names of authors and their affiliations,

- Corresponding author contact information (address, telephone, fax, e-mail).

- *Total words number of paper, abstract & text.*

نام چه کسانی به عنوان نویسنده(**Author**) مقاله لیست شود؟

AUTHORS

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- **Authorship** از بحث های مهم مخصوصا نزد دانشجویان است. برای اینکه یک نفر نامش درلیست نویسندگان یک مقاله ذکر شود، این فرد باید یکی از معیارها یا فعالیتهای ذیل را بطور کلی داشته باشد:

۱- تفکر و طراحی طرح پژوهش (Study design)

۲- آنالیز و تفسیر آماری

۳- تهیه پیش نویس مقاله (draft)

۴- اصلاح و انجام عملیات critical revising بر روی مقاله به نحوی که در محتوای علمی مقاله موثر باشد.

۵- تایید علمی نهایی مقاله قبل از ارسال(submit) آن به مجلات جهت چاپ.

اما بطور دقیق و بر اساس قوانین مدیکال ژورنالیزم شرایط نویسندگی عبارتست از:

Authorship

- **Authorship:**
- **1- Author should be named in the by-line**
- **2- Author should meet conditions A, B, C, and D**
- **A: Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work**
- **B: Drafting the article or revising it critically for important intellectual content**
- **C: Final approval of the version**
- **D: Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved**

Terminology of Authorship

- **Ghost Author**

She/he has the authorship criteria but is not included in the authors list. It is not ethical.

- **Guest Author**

She/he has not the authorship criteria. It is not ethical.

- **Ghost Writer**

She/he is usually a medical writer who develops the draft. It is ethical.

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تعداد نویسندگان مقالات

به وسعت مطالعه و تعداد افراد مشارکت کننده در آن بستگی دارد.

نحوه چینش و ترتیب اسامی نویسندگان

۱–؟ ۲ –؟ ۳–؟

سهم مشارکت و توافق جمعی

Psychometrics Properties of the Spiritual Transcendence Scale (STS) among Iranian Students

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-Total number of words: **3,997**

- Abstract: 171

- Text: 3, 809

Efficacy of Peer Education for Adopting Preventive Behaviors against Head Lice Infestation in Female Elementary School Students: A Randomised Controlled Trial

Running title: Peer education on preventive behaviors head lice infestation in students

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 The authors confirm that the following Data Availability Statement is accurate and acceptable:

Parents of students who participated in this study were dissatisfied and so authors cannot upload the minimal data set underlying the findings in

this study. Data will be available upon request to all interested researchers. The readers can contact to request the data by e-mail:

mehdi.8984@yahoo.com (Mehdi Mojadam).

How to Prepare the Title

- **Make a list of the most important keywords**
- **Think of a title that contains these words**
- **The title could state the conclusion of the paper**
- **The title never contains abbreviations, chemical formulas, (MS?:** Metabolic syndrome, Multiple sclerosis, Mitral stenosis)
- **Think, rethink of the title before submitting the paper**
- **Be very careful of the grammatical errors**

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Title

- **Titles should neither be too short nor too long as to be meaningless**
- **Waste words (studies on, investigations on, a, an, the etc) should not be used.**
- **It should contain the keywords that reflect the contents of the paper.**
- **It should be meaningful and not general**

Indexing and abstracting of the paper depends on the accuracy of the title. An improperly titled paper will get lost and will never be read.

-

عنوان مقاله

✓ کوتاه و جامع (حداکثر ۱۵؟؟ کلمه)،

✓ حاوی موضوع کلی و متغیرهای اصلی پژوهش و رابطه آنها،

✓ فاقد کلمات اضافه،

✓ هماهنگ با متن مقاله،

✓ ترجمه صحیح و دقیق به زبان انگلیسی،

✓ اجتناب از بکارگیری اختصارات،

✓ جذاب

✓ عنوان نباید به صورت یک جمله کامل نوشته شود و نباید فعل داشته باشد. ترجیحا نباید به صورت پرسشی نوشته شود. باید به صورت یک عبارت نوشته شود.

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عنوان مقاله ...

- عنوان، محتوای تحقیق و در حقیقت یافته های اصلی تحقیق را بیان می کند به همین دلیل از اهمیت خاصی برخوردار است.

- اولین نقطه تماس نویسنده با خوانندگان، عنوان تحقیق است.

- بسیاری از افراد فقط به خواندن عنوان اکتفا می کنند و اگر آن را جذاب و مورد علاقه یافتند به سایر قسمت های مقاله می پردازند.

- هدف از نوشتن عنوان این است که با کمترین لغات بیشترین اطلاعات ممکن را به خواننده منتقل نمایید.

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Examples

Action of Antibiotics on Bacteria ???

- Action: should be defined
- Antibiotics: should be listed
- Bacteria: should be listed

مثالهاي ناقص:

بررسی بروز عفونت

جامع و کامل نیست. چه نوع عفونتی؟ در کجا؟ در چه بیمارانی؟ و ....

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کار گروهی

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نگارش را از کدام قسمت شروع کنیم؟

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Introduction

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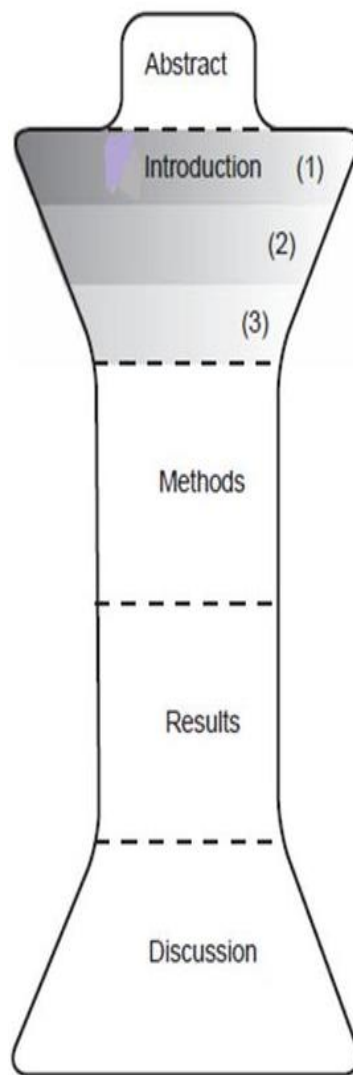
Abstract

- Summarizes the paper
- Widely read and therefore important
- Commonly organized in IMRAD format (may be or not structured abstract, with headings corresponding to the various sections)
- Normally should not include figures, tables, references
- It is easier to write the abstract after completion of the paper

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Peh W C G, Ng K H

Abstract and keywords

ABSTRACT

The abstract of a scientific paper represents a concise, accurate and factual mini-version of the paper contents. Abstract format may vary according to the individual journal. For original articles, a structured abstract usually consists of the following headings: aims (or objectives), materials and methods, results and conclusion. A few keywords that capture the main topics of the paper help indexing in the medical literature.

Keywords: abstract, keywords, medical writing, scientific paper structure, structured abstract

databases and records can also be summarised into abstracts. As abstracts are the only substantive portion of the article indexed in many electronic databases, authors need to be careful that abstracts accurately reflect the contents of the paper. Unfortunately, many abstracts disagree with the text of the article.[2] Authors need to ensure that all the information and conclusion contained in the abstract appears in the body of the manuscript.

The format and length required for abstracts differ from journal to journal. Authors should aim to prepare their abstracts in the format specified by the journal they have chosen. Abstracts may be unstructured or structured, depending on the journal style. In general, unstructured abstracts are used for certain types of articles, e.g. case

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Abstract

Background: Pediculosis is a common parasitic infestation in students worldwide, including Iran. This condition is more prevalent in populous and deprived communities with poor personal hygiene. This study sought to assess the efficacy of peer education for adopting preventive behaviors against pediculosis in female elementary school students based on the Health Belief Model (HBM).

Methods: A total of 179 female fifth grade students were selected using multistage random sampling and were randomly allocated to control and intervention groups. A standard questionnaire was designed and administered to collect baseline information. An educational intervention was then designed based on the conducted needs assessment. The educational program consisted of three sessions, held by peers for the intervention group. The questionnaire was re-administered one month after the intervention. Independent and paired t-test, Pearson's correlation coefficient, and regression analysis were applied as appropriate.

Results: The two groups had no significant differences in the scores of knowledge, HBM constructs, or behavior before the intervention. After the intervention, however, the mean scores of all parameters significantly improved in the intervention group.

Conclusion: Peer education based on HBM is an effective strategy to promote preventive behaviors against pediculosis in among fifth grade female elementary school students in Iran.

Keyword: Head lice, Behavior, Prevention, Student, Girl

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Abstract

Objective: Menopause represents a critical period in a middle-aged woman's life. It causes physiological problems such as hot flashes, night sweats and anxiety and affects the women's attitude towards their self-efficacy and self-acceptance. This study aimed to design and assess the effectiveness of a group-based educational program on the self-efficacy and self-acceptance of menopause women using the PRECEDE–PROCEED model in Iran.

Methods: This Randomized Controlled Trial (RCT) study was conducted on 80 menopause women in the age range of 47-55 years residing in the north east of Iran, who were selected according to the inclusion criteria and were divided into two groups of test (n=40) and control (n=40). Data were collected using the predisposing, reinforcing and enabling factors as well as self-efficacy and self-acceptance questionnaires. Educational intervention in the test group was carried out in four sessions of face-to-face instruction for 120 minutes. The data were collected before and after the intervention in the two groups.

Results: The mean age of women was 51.62 ± 4.26 years. In the test group, the mean scores of predisposing ($P<0.001$), reinforcing ($P=0.013$) and enabling ($P<0.001$) factors were significantly different before and after the intervention compared to the control group. The difference in self-efficacy ($P<0.001$) and self-acceptance ($P<0.001$) of the two groups was significant as well.

Discussion: The results showed that designing and implementation of a group-based educational program according to the PRECEDE–PROCEED model can significantly enhance the knowledge and performance of the test group with regard to self-efficacy and self-acceptance.

Keywords: group-based educational- self-efficacy- self-acceptance- menopause

Keywords

- **Based on the focus of the study**
- **Captures main topics of the article**
- **3 to 5 words**
- **Terms from Medical Subject Headings (MeSH terms) list in Index Medicus are used**

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•کار گروهی

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