Literature Review

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Course: **RESEARCH METHODOLOGY/BIOSTATISTICS** (MA 322)

Summer-Class

Week 2

Date 20-8-2025

Outline

- What is a literature review.
- Importance of Literature Review.
- Types of Literature Review.
- Steps in Conducting a Literature Review.
- Structure of a Literature Review

Objectives

❖ By the end of this lecture, students should be able to:

1. Define what a literature review is and explain its importance in research.

2. Identify the main purposes of conducting a literature review.

3. Describe the steps involved in conducting a literature review.

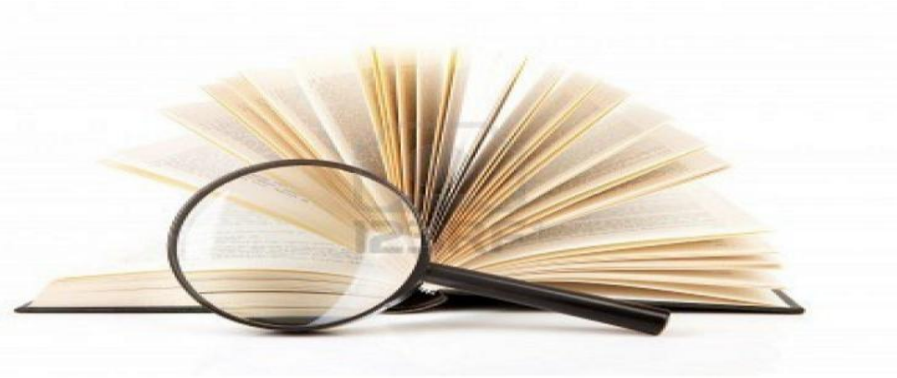
4. Differentiate between types of literature reviews.

5. Develop basic skills for writing and organizing a literature review.

❑ What is a literature review?

- A literature review is a critical summary and evaluation of existing research related to a particular topic or research question.

- It helps researchers understand what is already known, identify gaps, and provide a context for their study.



❑ Example:

- If you want to study "The effects of probiotics on fish growth in aquaculture", your literature review should summarize and evaluate previous studies on:

- Types of probiotics used in aquaculture

- Their effects on fish growth

- Experimental conditions and species tested

- Knowledge gaps (e.g., limited studies on specific fish species)

❑ Importance of Literature Review

1. Provides background information

2. Identifies gaps in knowledge .

3. Avoids duplication .

4. Guides methodology

5. Supports arguments

Example: If existing studies show that probiotics improve tilapia growth but have not been tested in saline environments, your research could address that gap.

❑ Types of Literature Review:

1. Narrative/Traditional Review:– Provides a broad overview, often descriptive.

2. Systematic Review:– A structured review with defined criteria for including/excluding studies.

3. Meta-analysis:– A quantitative summary combining results from multiple studies.

4. Scoping Review:– Maps existing research to identify trends and gaps.

❑ Example of Literature Review (Mini-Example):

- Topic: The impact of social media on student academic performance.

✓ Author A (2018): Found that social media distracts students and reduces concentration.

✓ Author B (2020): Reported that social media can enhance collaborative learning if used properly.

- ✓ Author C (2021): Showed no significant effect on grades but noted increased anxiety levels.

- Synthesis: While studies show mixed effects, most agree that the way social media is used determines its impact.

- More research is needed on balancing usage to maximize benefits.

❑ Steps in Conducting a Literature Review:

- Step 1: Define Your Topic

- Clearly identify your research question or objective.

- Example: If studying diabetes in children, keywords may include "pediatric diabetes," "type 1 diabetes," "childhood obesity."

- Step 2: Search for Relevant Literature:

- Use academic databases like Google Scholar, PubMed, Scopus, Web of Science.

- Sources include: academic journals, books, dissertations, conference papers, credible websites, databases.“

- Step 3: Evaluate and Select Relevant Sources

- Check for credibility, relevance, and recent publication (preferably within the last 5–10 years).

- Step 4: Organize the Literature:
- Group studies by themes, methods, or findings.

- Step 5: Analyze and Synthesize

✓ Compare and contrast findings.

✓ Identify agreements, disagreements, and gaps.

- Step 6: Write the Literature Review

✓ Start with an introduction.

✓ Organize body paragraphs based on themes or trends.

✓ End with a summary highlighting research gaps.

❖ Structure of a Literature Review:

1. Introduction

- State the topic and importance.
- Outline scope and approach.

2. Body

- Thematic or chronological organization.
- Critical discussion of sources.

3. Conclusion

- Summarize key findings.
- Highlight gaps and how your study addresses them.

❖ Common Mistakes to Avoid:

- Listing without analysis:–Don’t just describe each study; compare and contrast them.
- Using outdated sources:– Use the most recent and relevant research.
- Plagiarism:– Always paraphrase and cite sources.
- Too broad or too narrow scope:– Keep your review focused.

References

1. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. (1979). The Belmont Report.
2. World Medical Association. (2013). Declaration of Helsinki.
3. Council for International Organizations of Medical Sciences (CIOMS). (2016). International Ethical Guidelines for Health-related Research Involving Humans.

Thanks