SCIENTIFIC MEDICAL RESEARCH

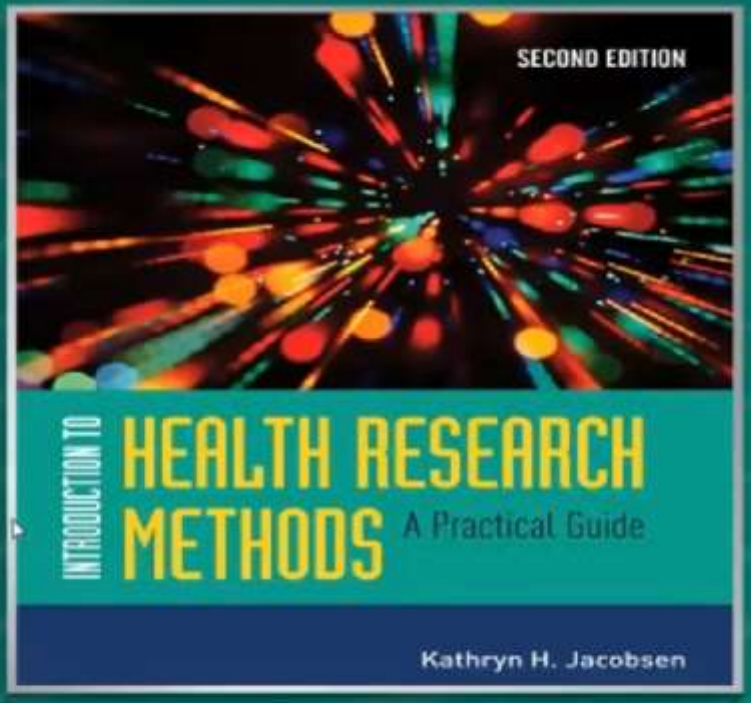
Week 11

Edited by Zina Smadi
& Sarah Al-Qudah
P.S. the slides were edited according to the doctor's lecture // book additional info was not added

Article Structure

(How to prepare your article).

Chapter 32



32.1 Writing Checklists

- Established writing checklists can guide the content to include in reports. **Checklists-of the journals u aim to publish in-differ between different journals.**
- Outlining to the paragraph level before writing can help ensure that no critical information is inadvertently omitted.

When reviewing the article, if all items mentioned in the checklist are actually found in the article, the article will get accepted and published faster // the article can still get published even if there is no checklist

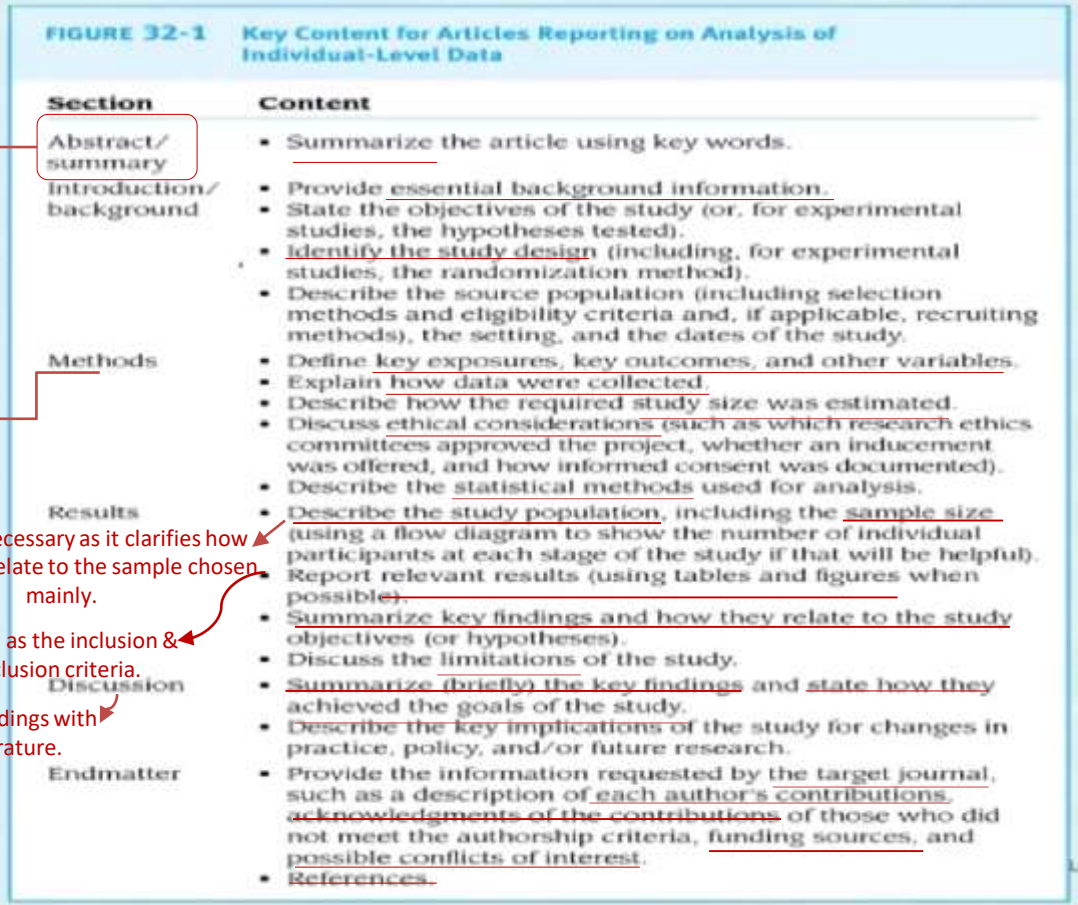


FIGURE 32-1 Key Content for Articles Reporting on Analysis of Individual-Level Data

Section	Content
Abstract/ summary	• Summarize the article using key words.
Introduction/ background	• Provide essential background information. • State the objectives of the study (or, for experimental studies, the hypotheses tested). • Identify the study design (including, for experimental studies, the randomization method). • Describe the source population (including selection methods and eligibility criteria and, if applicable, recruiting methods), the setting, and the dates of the study.
Methods	• Define key exposures, key outcomes, and other variables. • Explain how data were collected. • Describe how the required study size was estimated. • Discuss ethical considerations (such as which research ethics committees approved the project, whether an inducement was offered, and how informed consent was documented). • Describe the statistical methods used for analysis.
Results	• Describe the study population, including the sample size (using a flow diagram to show the number of individual participants at each stage of the study if that will be helpful). • Report relevant results (using tables and figures when possible). • Summarize key findings and how they relate to the study objectives (or hypotheses). • Discuss the limitations of the study.
Discussion	• Summarize (briefly) the key findings and state how they achieved the goals of the study. • Describe the key implications of the study for changes in practice, policy, and/or future research.
Endmatter	• Provide the information requested by the target journal, such as a description of each author's contributions, acknowledgments of the contributions of those who did not meet the authorship criteria, funding sources, and possible conflicts of interest. • References.

Same content; different nomenclatures between journals.

The steps done during the research.

Extremely necessary as it clarifies how the findings relate to the sample chosen mainly.

As well as the inclusion & exclusion criteria.

We compare our findings with the previous literature.

The doctor only read the following tables.

A summarized guide to the points a reviewing journalist expect to see in your submitted paper.

FIGURE 32-3 Sample Outline for an 18-Paragraph Paper

	Section	Paragraph
1	Abstract	Summary
2	Introduction	Set the stage
3	-	Justify the importance of the study
4		Main study question and 3 specific aims
5	Methods	Sampling and recruiting(How u chose your sample).
6		Survey instrument
7		Ethics
8		Statistical methods
9	Results	Description of participants (Table 1)
10	3 tables + 1 sample table	Key finding #1 (Table/Figure 2)
11		Key finding #2 (Table/Figure 3)
12		Key finding #3 (Table/Figure 4)
13	Discussion	Answer to the main study question
14		Commentary on key finding #1
15		Commentary on key finding #2
16		Commentary on key finding #3
17		Study strengths and limitations
18		Implications and conclusions
	Endmatter	References
		Table/Figures

The doctor then showed different examples of published articles and demonstrated the parts an article should include // check minute 6:30 to see it.

Some journals require from the researchers to write reports lightening the way they used to express contents of their paper// instructions differ according to the journal and the article type.

FIGURE 32-2 Common Reporting Guidelines

Study Approach	Checklist	
Case series	CARE	*Case Report*
	STARD	*Standards of Reporting of Diagnostic Accuracy*
	TRIPOD	*Transparent Reporting of a multivariable prediction model for Individual Prognosis or Diagnosis*
Cross-sectional survey Case-control study Cohort study	STROBE	*Strengthening the Reporting of Observational Studies in Epidemiology*
Experimental study	CONSORT Most common	*Consolidated Standards of Reporting Trials* (for randomized controlled trials)
	SPIRIT	*Standard Protocol Items: Recommendations for Intervention Trials*
	SQUIRE	*Standards for Quality Improvement Reporting Excellence*
	CHEERS	*Consolidated Health Economic Evaluation Reporting Standards*
	TREND	*Transparent Reporting of Evaluations with Nonrandomized Designs*
Qualitative studies	COREQ	*Consolidated Criteria for Reporting Qualitative Research*
Systematic review Meta-analysis	PRISMA	*Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (for evaluations of interventions)
	MOOSE	*Meta-analysis of Observational Studies in Epidemiology*

Examples were also shown // check minute 10:30.

A summary of the lecture displayed examples:

- The abstract: some journals ask u to write a keyword section in it.
- The introduction(the background): the no. of pages it meant to be written in can be limited or even it's no. of words.
- Methods & Materials: some journals prefer the format of subheadings in this section; requiring you to state the: settings, design, sampling…etc. each by its own.
- The instruments.
- Data analysis.
- The Results: its presentation differ according to the type of the research (quantitative/qualitative); each study differ in its tables presentation in this section but as a general preference there shouldn't be more than 4.
- The Discussion: we expect to find resources as this section meant to review the past literature and our paper association to it; here u should be answering your study inquiries, sometimes u may need to include pictures.
- The Endmatter: -could be absent_depending on the journal instructions- includes the ethical consideration, the pre-publishing consent, funding…etc.

32.2 Abstract

- The ***abstract*** is a paragraph-length summary of the article that serves as a type of "advertisement" for the manuscript.

You first check the abstract then decide whether to download the article or not. For its importance, the journal publishing ur paper may have some comment on it & u have to edit according on them.

2 types.

- A *structured abstract* uses subheadings like Objective, Methods, Results, and Conclusion to highlight content.
- An *unstructured abstract* usually follows the same outline but does not list the section titles.
- Use synonyms; be careful about length.

Examples were shown // check minute 12:35

DOI:10.22034/APJCP.2017.18.9.2533
Policy Context of Waterpipe Smoking

RESEARCH ARTICLE

Policy-Relevant Context of Waterpipe Tobacco Smoking among University Students in Six Countries Across the Eastern Mediterranean Region: A Qualitative Study

Ramzi G Salloum[1], Niveen Abu-Rmeileh[2], Randah Hamadeh[3], Justin Thomas[4], Aya Mostafa[5], Afzalhussein Yusufali[6], Khalid A Kheirallah[7], Mark M Macauda[8], Ryan P Theis[1], Lama El Kadi[9], Evan J Johnson[1], Muhammad W Darawad[10], Rima Nakkash[9]*

Structured Abstract.

Abstract

Background: Waterpipe tobacco smoking rates in the Eastern Mediterranean region are some of the highest worldwide, especially among young people. This study aimed to improve our knowledge of the policy-relevant context of waterpipe smoking among six countries in the Eastern Mediterranean region. **Methods:** In-depth interviews were conducted in Bahrain, Egypt, Jordan, Lebanon, Palestine, and the United Arab Emirates. Participants were young adult university students (18-29 years) from both genders who had ever smoked the waterpipe, recruited from universities participating in this study. Directed content analysis was used to analyze the transcripts. **Results:** A total of 53 in-depth interviews were conducted in Arabic in 2016. Findings were organized around 5 themes: waterpipe product characteristics, patterns of waterpipe smoking, the waterpipe café setting, perceived health consequences, and health warning labels. Waterpipe smoking was commonly perceived as a safe alternative to cigarettes. Waterpipe tobacco was reported to be widely accessible and affordable to young participants. There is a lack of knowledge among waterpipe smokers about the associated health effects. Warning labels are effective at communicating health risks associated with waterpipe smoking. **Conclusions:** Regulatory frameworks for waterpipe tobacco smoking should be developed and enforced, including waterpipe-specific health warning labels that elucidate the harmful effects of waterpipe smoking.

Keywords: Waterpipe- hookah- shisha- policy- qualitative- Eastern Mediterranean

Asian Pac J Cancer Prev, **18** (9), 2533-2540

of the Diabetes Distress Scale

Muhammad W. Darawad, PhD, RN; Sawsan Hammad, RN, MSN; Osama A. Samarkandi, PhD, RN; Ayman M. Hamdan-Mansour, PhD, RN; and Amani A. Khalil, PhD, RN

Unstructured Abstract.
No subheadings.

ABSTRACT

The current study evaluated the psychometric properties of the Arabic version of the Diabetes Distress Scale (DDS-A) among Arab patients with diabetes mellitus (DM) using a descriptive cross-sectional design. Participants' DDS-A total scores significantly correlated with depressive symptoms ($r = 0.288$, $p = 0.00$) **[Query #1: p value cannot equal 0.00. Please change to $p < 0.05$, $p < 0.01$, etc., throughout the abstract and article text.]** as well as two subscales, emotional burden ($r = 0.276$, $p = 0.00$) and regimen distress ($r = 0.265$, $p = 0.00$). Participants' DDS-A scores had significant negative correlations with income, DM self-management, and knowledge ($r = -0.184$, $p = 0.008$; $r = -0.310$, $p = 0.00$; $r = -0.174$, $p = 0.003$, respectively) and a positive correlation with HbA1C level ($r = 0.153$, $p = 0.018$). Factor analysis revealed a four-factor solution that retained all items and explained a variance of 65.59%. Cronbach's alpha was 0.822 for the total scale and 0.778 to 0.881 for the subscales, indicating a high internal consistency. The DDS-A was found to be a psychometrically sound measure to evaluate DM-related distress among Arab patients. (*Journal of Psychosocial Nursing and Mental Health Services*, xx(x), xx-xx.)

Diabetes mellitus (DM) is a chronic disease that affects 366 million individuals worldwide, a number that is expected to rise by 2030 to 552 million (Whiting, Guariguata, Weil, & Shaw, 2011). Developing countries are at a higher risk for more DM cases, with a 69% increase in the number of adults with

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DM between 2010 and 2030 (Shaw, Sicree, & Zimmet, 2010). In Jordan, ... dus, and 26.2% had regimen-related distress. Furthermore, diabetes-related ... was reported to be sufficient ($\alpha = 0.87$), and its validity coefficients showed a ...

Some journals require the aim to be highlighted.

Some journals ask to include the statistical numbers in the abstract; or limit u in the type of citation…etc.

For example; the **TID** (Tobacco Induced Diseases) journal won't accept your paper if their directives weren't followed.

32.3 Introduction

Depending on the previous literature.

- The *introduction section* (or *background section*) typically provides information about key definitions and foundational theories as well as the overall goal & specific aims of the paper.

Preferably 3 aims at least

32.4 Methods

- The *methods section* typically describes the study design; the data collection & analysis methods; and ethical considerations.

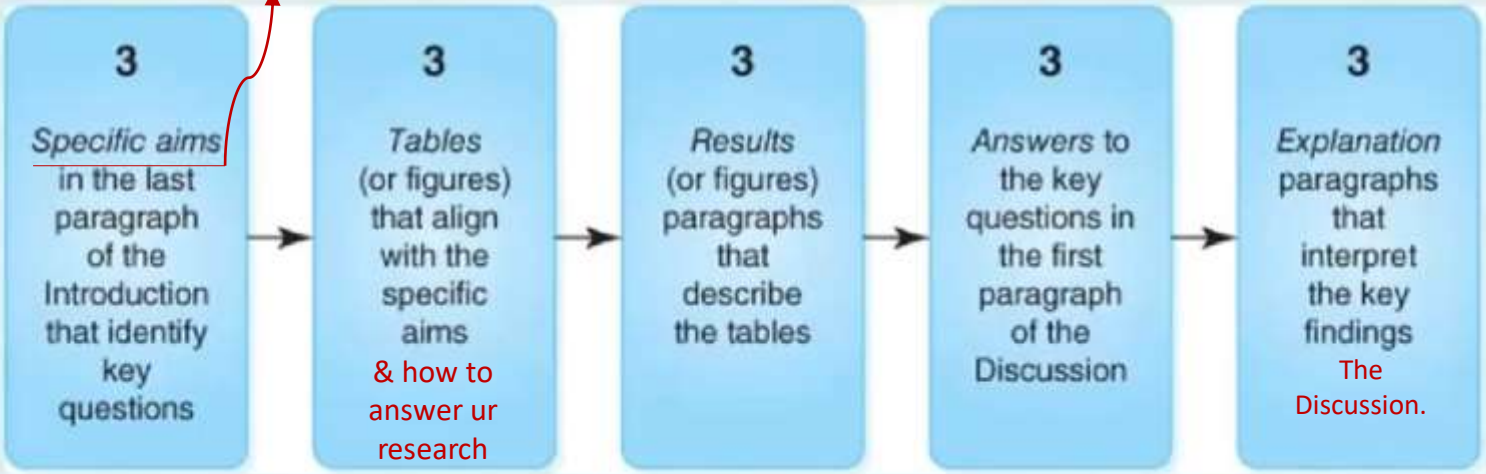
So the reader & the journal would be comfortable with you work.

32.5 Results

- The *results section* describes the study population and the key quantitative and/or qualitative results, using tables/figures when possible.

Figure 32-4: A "Follow the 3s" Approach to Storytelling in a Scientific Paper

At least 3 + 1 general one.



32.6 Discussion

- The *discussion section* usually begins with a brief summary of the key findings of the new study, then puts them in context by comparing them to previous studies. Without restating the Results section.
- At least one paragraph typically describes the strengths & limitations of the study.
- The final paragraph usually presents conclusions & implications. **For multiple reasons like: Clinical practices, education, research…etc.**

It gives u an indication about in what circumstances were the results like this eg. the results were insignificant because the sample size was small, the work conditions were not suitable…etc. Also, it helps future studies researchers to know what to do to improve their papers.

32.7 Endmatter

- Some journals list author contributions, acknowledgments, disclosures, and other information after the main text.

(of a conflict of interest).

32.8 Tables & Figures

- "A picture is worth a thousand words." **It summarizes many details.**

FIGURE 32-5 Sample Table Describing the Participants in a Case-control Study and Showing that the Case and Control Populations Are Similar

Characteristic		Cases n = 102	Controls n = 237	X^2 p-value
Sex	Female	54 (53%)	138 (58%)	0.37
	Male	48 (47%)	99 (42%)	
Home district	North	33 (32%)	62 (26%)	0.47
	Central	33 (32%)	89 (38%)	
	South	36 (35%)	86 (36%)	
Current smoker	Yes	18 (18%)	31 (13%)	0.28
	No	84 (82%)	206 (87%)	

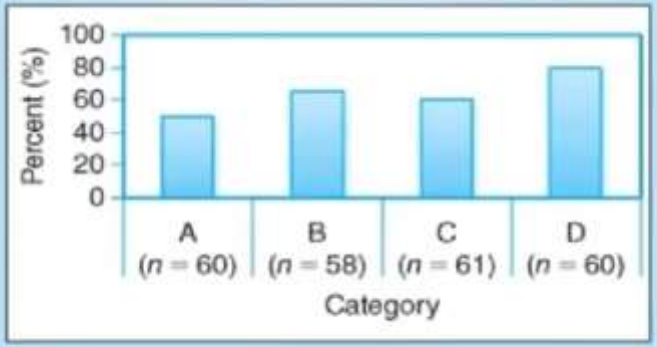
Figure 32-6

Bar graphs are usually used for major research questions not all categorical values; it gives u the results in an easy presentation.

The doctor said that it is not of that importance

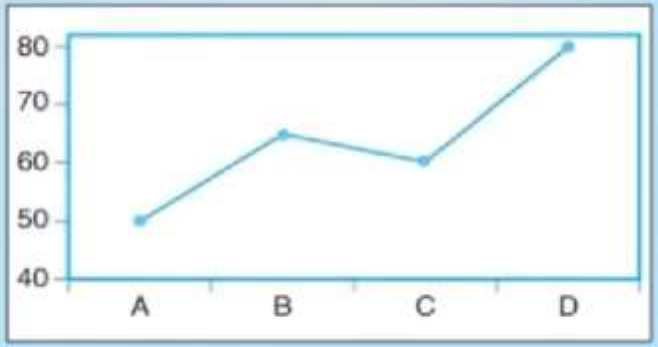
Correct:

- Bar graph used to display categorical data
- *y*-axis extends from 0% to 100%
- Both axes are labeled
- Provides information about sample sizes



Problems:

- Interpolated line graph incorrectly used to display categorical data
- *y*-axis scale implies greater difference between categories than truly exists
- Missing label on *y*-axis makes it unclear that the value is a percent rather than a count

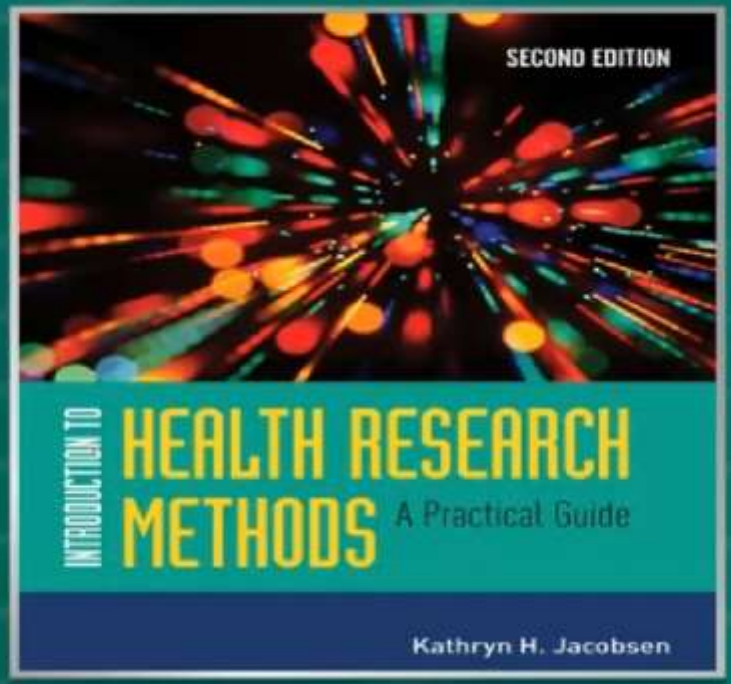


When the line interpretation is used to display categorical values the Y axis implies greater differences between categories than truly exists.

Citing

Important to prevent wasting efforts.

Chapter 33



33.1 Referring to the Scientific Literature

- A typical article in the health sciences refers to about 25 or 30 other articles published in peer-reviewed journals.
- Writers must read the full text of every article they cite; abstracts are not always accurate. Sometimes it doesn't give a clear information so u need to read the full article.
- Avoid citations of informal sources like factsheets.

They give you details about every step in the paper you're reading unlike the informal sources.

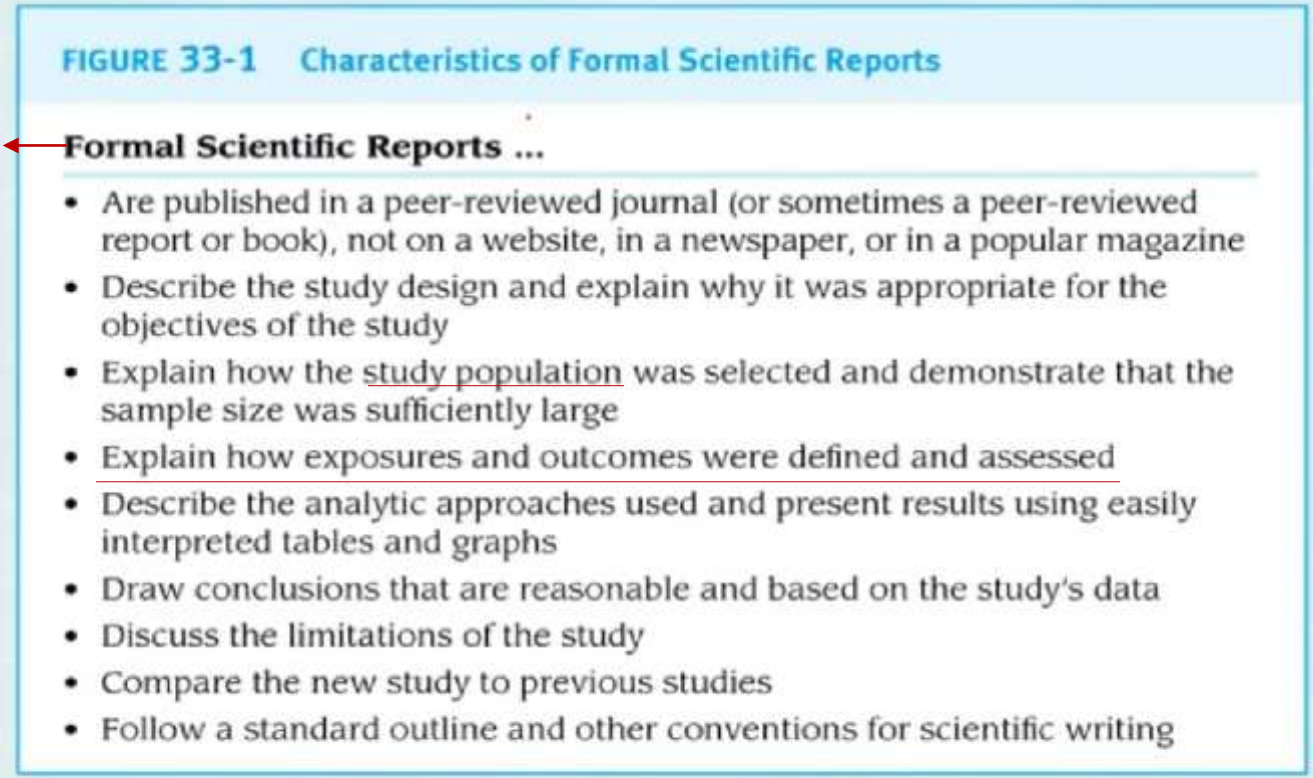


FIGURE 33-1 Characteristics of Formal Scientific Reports

Formal Scientific Reports ...

- Are published in a peer-reviewed journal (or sometimes a peer-reviewed report or book), not on a website, in a newspaper, or in a popular magazine
- Describe the study design and explain why it was appropriate for the objectives of the study
- Explain how the study population was selected and demonstrate that the sample size was sufficiently large
- Explain how exposures and outcomes were defined and assessed
- Describe the analytic approaches used and present results using easily interpreted tables and graphs
- Draw conclusions that are reasonable and based on the study's data
- Discuss the limitations of the study
- Compare the new study to previous studies
- Follow a standard outline and other conventions for scientific writing

FIGURE 33-2 Citable Sources

Source	Formal or Informal?	Citable?	Remarks
Website or fact sheet	Informal	Rarely	Websites and fact sheets may be helpful starting places for informal research but should only be cited in a formal manuscript if they are from a trusted organization and no formal article or report provides the same information.
Newspaper or popular magazine	Informal	Rarely	Popular media items should be referred to only when no formal scientific article or report provides the same information.
Statistical database	Formal	Yes	Cite statistical databases and reports only when information is provided about how, when, and where the data were collected.
Official report	Formal	Yes	Reports are usually cited only when they are formal publications (with assigned publication years and/or other bibliographic information) from trusted organizations.
Book or book chapter	Formal	Yes	Although most scientific communication occurs through journals rather than books, scientific books are acceptable sources for formal manuscripts; general textbooks are rarely appropriate sources, but some highly technical textbooks are appropriate to cite.
Abstract	Formal	No	Cite only full-text articles (and be sure to read the full text before citing them).
Article	Formal	Yes	Articles from peer-reviewed journals are the preferred references for formal manuscripts.

Only if the information is extremely important for the reader.

Specially when viewed in public conference.

Most important and most common.

This table is important; must be understood and memorized

33.2 Writing in One's Own Words

- Almost no scientific articles quote directly from another source word for word.
- **Paraphrasing** does not remove the requirement to cite the original source; it just means that quotation marks do not have to be used. Your words built on information from a certain source.

FIGURE 33-3 Examples of Quoting and Paraphrasing

Quotation (almost never used in journal articles)	Paraphrase (often used)	Reference (always required for either a quotation or a paraphrase)
A case-control study examining risk factors for ovarian cancer in Canadian women found that "age at first full-term pregnancy was not associated with risk of ovarian cancer."[1]	A case-control study of Canadian women found no association between ovarian cancer and the ages of participants at the time of their first full-term pregnancies.[1]	1. Risch HA, Marrett LD, Jain M, Howe GR. Differences in risk factors for epithelial ovarian cancer by histologic type: results of a case-control study. *Am J Epidemiol* 1996; 144:363–72.
The authors acknowledged that "since we did not adjust for depth of inhalation and age at smoking onset, the RR for women, compared with that for men, due to smoking was likely to have been underestimated by our results."[2]	The authors of the study pointed out that it was possible that they might have underestimated the magnitude of the increased risk of lung cancer in female smokers compared to male smokers because they had not statistically adjusted for smoking behaviors, such as the depth of inhalation.[2]	2. Zang EA, Wynder EL. Differences in lung cancer risk between men and women: examination of the evidence. *J Natl Cancer Inst* 1996; 88:183–92.
The investigators noted that "cholera is usually considered to be a water-borne disease, but, in this outbreak, the available evidence indicates that a food item served as part of a meal was the most likely vehicle of infection."[3]	The investigators concluded that the most likely cause of the cholera outbreak was food served to passengers on the airplane.[3]	3. Sutton RG. An outbreak of cholera in Australia due to food served in flight on an international aircraft. *J Hyg (London)* 1974; 72:441–51.

Must be cited.

33.3 Common Knowledge and Specific Knowledge

For example a statistical no. that represent an information that only exist in a certain study→ must be cited because it's considered a SPECIFIC KNOWLEDGE.

- *Specific knowledge*, such as a statistic or the result of a particular field or laboratory study, must be cited.
- *Common knowledge* (also called *general knowledge*) refers to what a typical person in the discipline knows, and it does not require a citation.
- When in doubt, err on the side of using a citation.

Example:
The heart has 4 chambers -> no citation needed
<70% ejection fraction = heart failure class 1 -> citation

If you're confused to cite an information or not→ cite it.

33.4 Avoiding Plagiarism

- ***Plagiarism*** occurs when someone's wording, thinking, image, or creative output is repeated in a new document without attribution. → Without giving the credit to the original author.
- Plagiarism is a major violation of scholarly integrity, and it can have a damaging long-term impact on a professional career.
- Never cut & paste information from anywhere; "unintentional plagiarism" is still plagiarism. **Paraphrase then cite**

Specially when u do it for long parts.

33.5 Citation Styles

- Most of the citations styles used in the health sciences require two types of notations about each source of information:
  - **In-text citations** where the sources of information are briefly identified in the text
  - A **reference list** at the end of the document that provides full bibliographic information for each source
- Common styles: APA & AMA
- Be careful to use a consistent style across all entries in the reference list.

FIGURE 33-4 In-Text Citation Styles

Examples were shown // check minute 33:45

Number of Citations for the Sentence	1 Source	2 Sources	3 Sources
First author's last name and publication year	… [Ruiz, 2014].	… [Ruiz, 2014; Yamamoto, 2001].	… [Ivanov, 2008; Ruiz, 2014; Yamamoto, 2001].
Author(s) and publication year	… (Ruiz, 2014).	… (Ruiz & Sanchez, 2014; Yamamoto et al., 2001).	… (Ivanov, 2008; Ruiz & Sanchez, 2014; Yamamoto et al., 2001).
Number in brackets (square brackets)	… [1]. … .[1]	… [1, 2]. … .[1, 2]	… [1–3]. … .[1–3]
Number in parentheses (round brackets)	… (1). … .(1)	… (1,2). … .(1,2)	… (1–3). … .(1–3)
Superscript number	… .[1]	… .[1,2]	… .[1–3]

APA

AMA

Alphabetical arrangement.

et al= others.

(1,3)=1,3
(1-3)=1,2,3

The number is slightly elevated.

- Different citation styles indicate the same knowledge.

- The data order in the resources list:
  The author's last name or the first initials-the date-the article name-the journal name- the volume*-issue-page no.

*Volume: the edition of the journal in which the article was published

The End
Good Luck