



MEDICAL RESEARCH

MODIFIED NO.17








كتابة: لجين بلال

تدقيق: علاء خضر

الدكتور: منير أبو هلاله

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How to Write a Scientific Paper

Focus on results and discussion

Dr Munir Abu-Helalah

- Welcome to Week 10 of the Scientific Medical Research module. Today, we will discuss the components of writing a scientific paper, with a focus on presenting results, writing the discussion section, and crafting an abstract.
- There are two key differences between writing a report for this module and writing a manuscript. For any scientific report, we begin with an introduction, followed by a literature review and then the methodology. In contrast, a manuscript combines the introduction and literature review into a single section, which can be referred to as either the "background" or the "introduction." Additionally, a scientific paper typically contains only three to four paragraphs for the introduction or background information, making it much shorter than the corresponding section in a scientific report.

Is the paper worth writing?

- What's in the literature?
- "So What?"
- It's a lot of work (average 20-30 drafts). Don't do it unless its worth it.

- If we have completed our study and want to publish our work, we need to ask ourselves whether we have selected the right study design and whether the paper is worth writing and publishing. Publishing requires significant effort to produce a good manuscript. If we have chosen the correct study design and followed a valid methodological approach, it is worthwhile to proceed. However, ensure that the methodology is right, particularly the study design and sampling technique. Additionally, clearly define the primary and secondary outcomes, and verify that the assessment tool is valid.

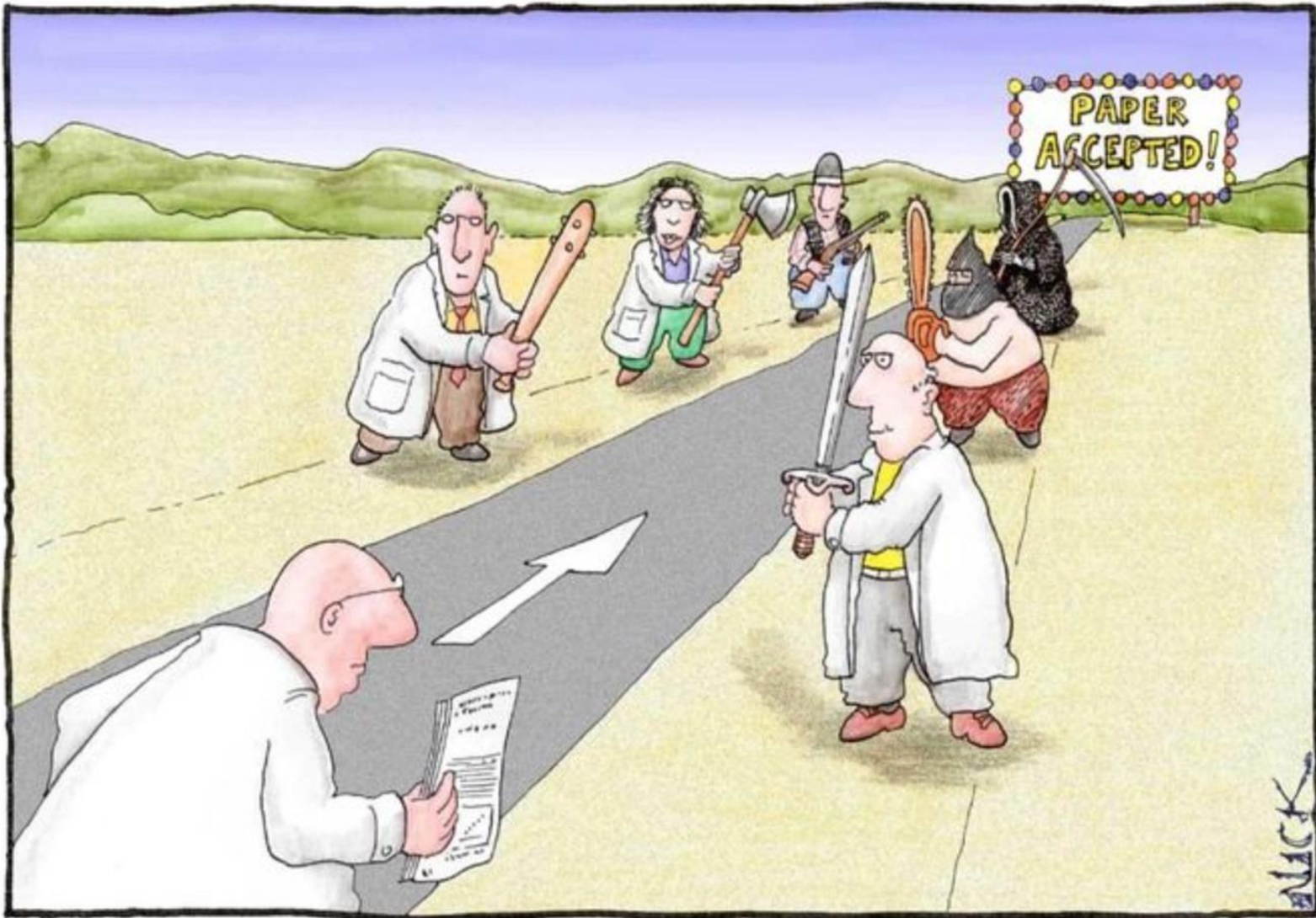
Which journal?

- i. Is topic of my paper within its scope and format?
- ii. Would it match my audience?
- iii. Ask mentor or other senior researchers: appropriateness
- iv. Impact Factor
- v. Consequences of wrong decision: time lost; failure to publish

- We need to consider several factors:
 1. Is the study conducted at a single site in Jordan, and
 2. is it representative of Jordan? Is it a clinical trial introducing new evidence, or
 3. is it a repeated study with a small number of patients?
 4. Is the topic broad, or is it very specific and narrow?
- These factors will determine the direction you take. At this stage, discuss with your team which journals you can apply to and gradually learn how to submit to journals effectively.

A scientific article as a critical argument

- a. Statement of problem; posing a question
- b. Presentation of evidence **present your results as a presentation of evidence**
- c. Assessment of the validity of the evidence in the face of ..
 - a. strengths/weaknesses
 - b. other evidence
- d. Conclusions



Most scientists regarded the new streamlined peer-review process as "quite an improvement."

- the journey for publication actually is not that easy , it will take time especially in your first attempts, You will learn with time how you can write the paper quickly and you can get Acceptance at an easier level.

Scientific writing

- A precise way to explain what you did, what you found, and why it matters
- scientific writing: the key thing that we need to be precise, concise, and we need to explain what we did and our findings and why they're important. So, the clarity is very important that people accept your work.

CLA  **RITY**

Journal Impact

- Impact factor: A measure of the frequency with which the 'average article' in a journal has been cited in a particular year
- Helps evaluate a journal's relative importance, especially compared to others in the same field
- Impact factor >5 considered very good
- Other measures: SJR scientific journal rankings

Choosing where to submit

- **'Very High impact' general medicine journals**

e.g. Lancet, British Medical Journal, New England Journal of Medicine, JAMA etc....

- +Wide readership

- +High impact

- +Great for CV

- +Often very quick to reject

- Only accept a tiny minority of papers **they don't accept everyone so you should have a case to get them accepting your paper**

- Laborious process of review, revision and publication.

Instructions to authors

- Make sure your paper conforms exactly to the journals specifications
- Most papers can be shortened!

Presents two key topics: instructions for authors for publications and guidelines for grant applications. Regarding grant applications, reading the instructions carefully is essential. For example, if a call requests a 3,000-word proposal, submitting 3,050 words will lead to rejection. If the grant focuses on the prevalence of illnesses in pediatrics, submitting a proposal on adults will not be accepted.

The same applies to journal publications. Following submission instructions is crucial. Journals often receive hundreds or thousands of submissions weekly or monthly. Administrative staff screen submissions, and papers not adhering to guidelines are rejected. For instance, some journals accept only microbiology papers. Submitting a paper on general surgery, even if related to infections, will not be considered.

To summarize, following general requirements and ensuring alignment with the topics accepted by the journal or grant is necessary.

Writing Styles.....



Writing your paper.....

Think of yourself as a reader for a moment. What kind of papers do you like to read? Short, meaty, and clear most likely. Well, then, write short, meaty, and clear papers yourself. Short, meaty and clear papers are most likely to be understood. The truth of this proposition will come home to you as you read biomedical writing and discover how easy it is to get the wrong message.

- Before submitting a paper, You should:
 1. write and read it carefully, then conduct a critical appraisal to ensure adherence to the structure. Include a clear abstract, introduction, methodology, results, discussion, and conclusion.
 2. Ensure the presentation is strong, the study is justified, all aspects of the methodology are covered, and the tools used are properly justified.
 3. Present the data effectively, begin the discussion with key outcomes, compare findings to existing evidence, and make a solid conclusion. Share the paper with others for feedback before submitting it to the journal.

The Introduction

- Draw audience in; be provocative
- Target journal specific audience
- Identify gaps in knowledge
- End with question/hypothesis



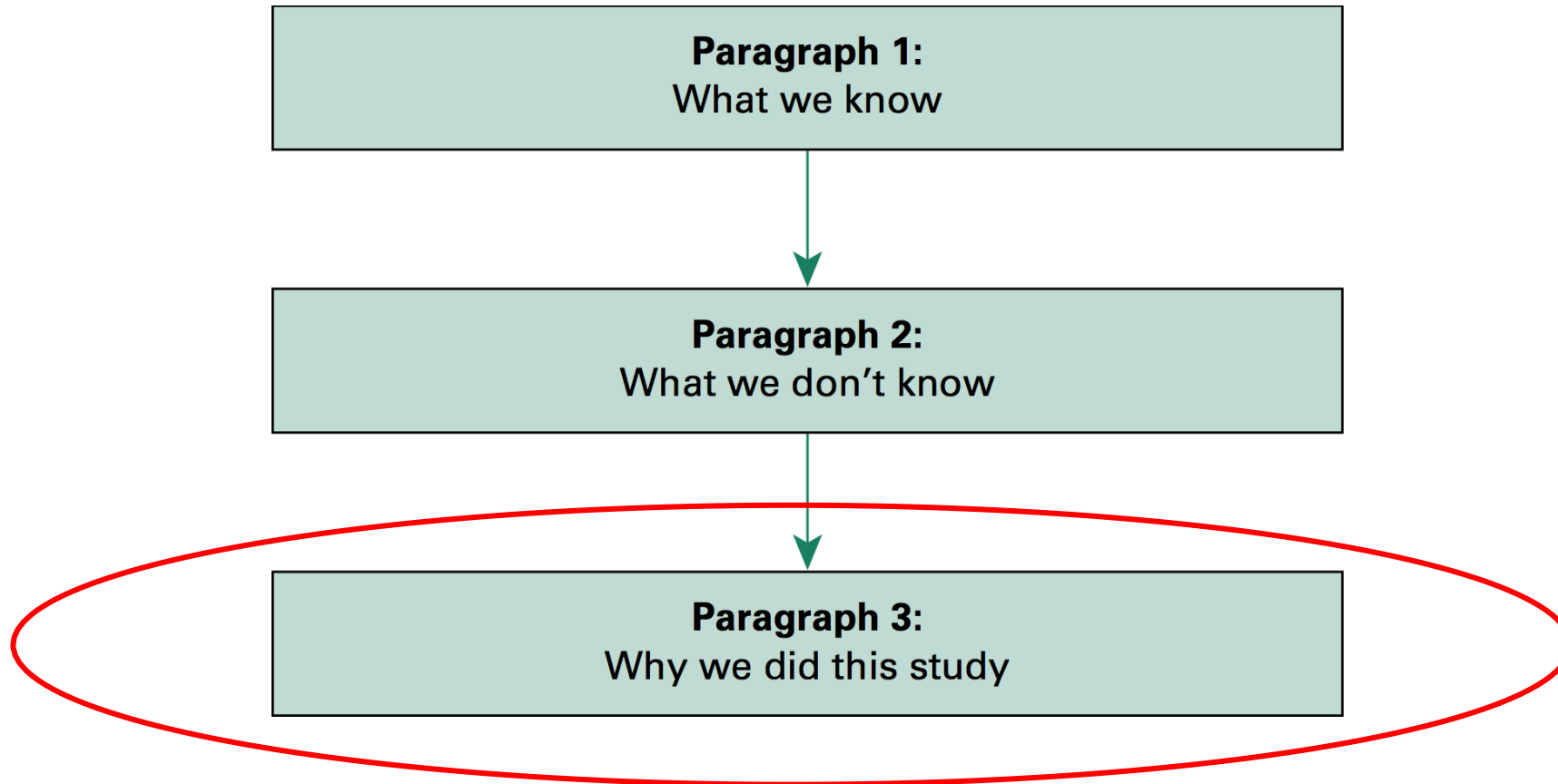
- The introduction in a manuscript differs from a report. It should draw the audience's attention effectively. For a common disease, begin by discussing its epidemiology and complications. For a rare or less familiar condition, start with a definition. Follow this with a section on existing evidence. The third paragraph should address limitations and highlight what is needed. The final paragraph summarizes the previous points and introduces the study rationale.
- For instance, if no studies have compared new medications for treating diabetes in elderly patients, state the intention to conduct a randomized controlled clinical trial. If phase two clinical trials have shown promising results for a new hypertension medication, indicate plans to proceed with a randomized phase three clinical trial. Similarly, if there is no data on the epidemiology or prevalence of hypothyroidism in Jordan, explain the decision to conduct a cross-sectional study in representative areas to measure the prevalence of hypothyroidism and hyperthyroidism in Jordan.

Introduction

- Decide on the level of background information needed; do not just repeat the obvious first line you have read in every paper
- Be clear about what the problem you are addressing is and how your study proposes to answer this

• This is the key thing about the introduction: it is different from the report introduction. In the report, you'll have an introduction and literature review; in the manuscript, you'll have either what we call it introduction or background. Some journals write it in background, and it's a summary of the introduction of the literature review.

The introduction of the manuscript not the report!



- The last paragraph will always explain why we conducted this study; we need to provide a justification.

Methods

Describe how you obtained your results in a way that others could replicate them (use CONSORT, STROBE or similar structure)

- Study design
- Participants
- Sample size calculation
- Define exposures and outcomes
- Statistical analysis
- Ethical approval; We discussed last week that we need to write that this study's IRB approval was obtained from the IRB committee for the University of Jordan, reference number; we'll write the code and date. There was no consent from the study based on feedback from the ethical committee, nor were patients consented to participate in the study.

Methods

We should have clear methods for conducting the case-control study, including identifying the risk factors for the rare condition. It is important to describe the inclusion and exclusion criteria and the study's sample size calculation. Clearly define the primary and secondary outcomes, as well as the tools used in the study.

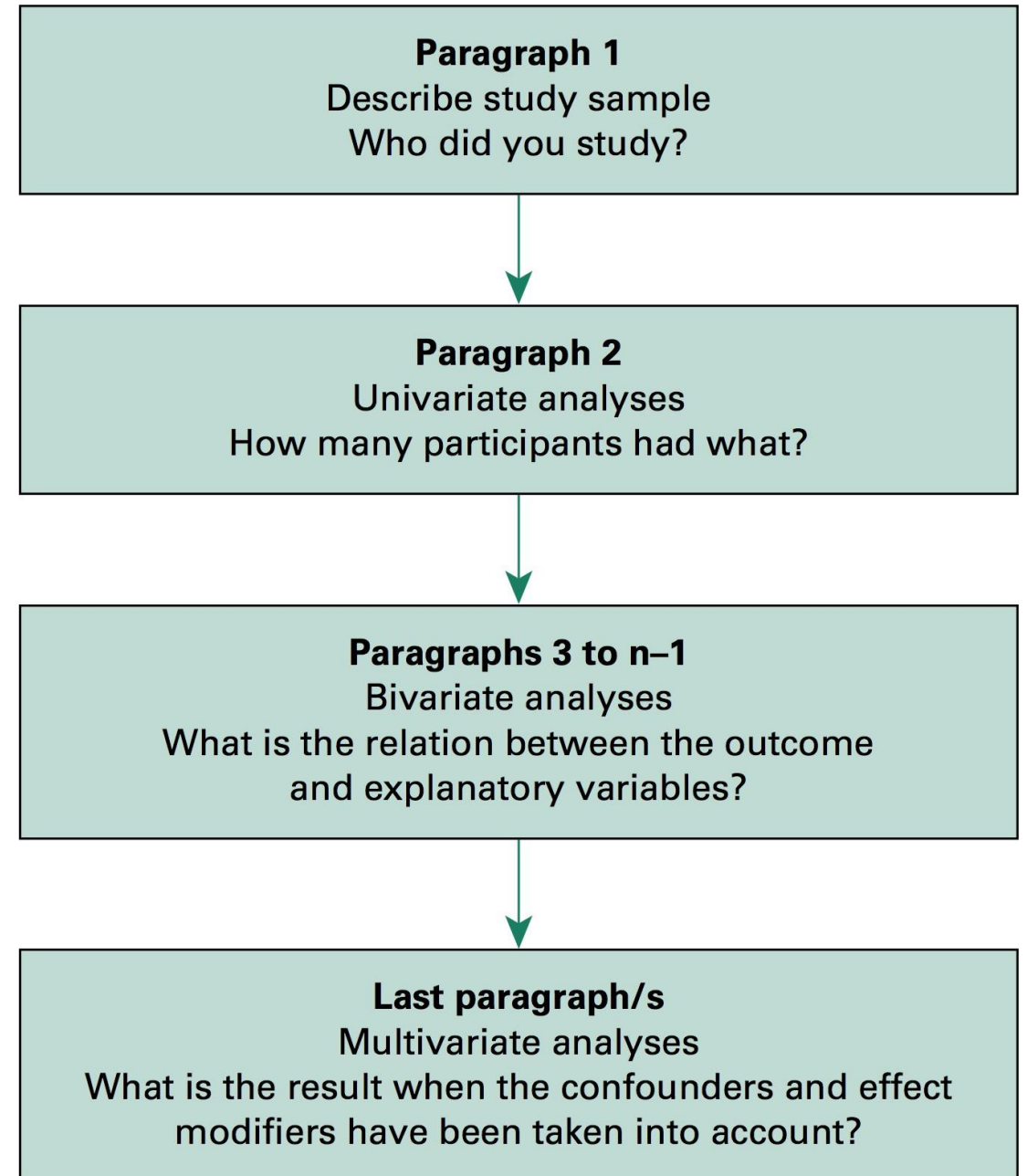
For example, if conducting a cross-sectional survey, describe its components. Include background information and specific questions, such as those related to smoking habits. If using a quality-of-life tool, provide details about it as a separate questionnaire. State that the short-form survey was selected for the quality-of-life study participants, noting that it consists of three main domains: physical, mental, and social well-being. Mention that this questionnaire has been validated for use in the Arabic language, with a validity of 90% and a reliability of 88%, and specify that it is suitable for conditions like arthritis, osteoarthritis, cancer, diabetes, and IHD. Clearly state that the tool is validated for use in this language and population, whether for patients with specific conditions or the general population.

Include a statistical analysis plan, as this serves as a roadmap for data analysis. Specify the software used, such as Stata or SPSS. For example, indicate using chi-square tests for comparing categorical variables, t-tests for comparing continuous variables, and multivariate or regression analysis as needed. Provide a detailed description of these analyses.

To familiarize yourself with statistical analysis plans for cross-sectional studies, case-control studies, cohort studies, and clinical trials, read examples from different publications.

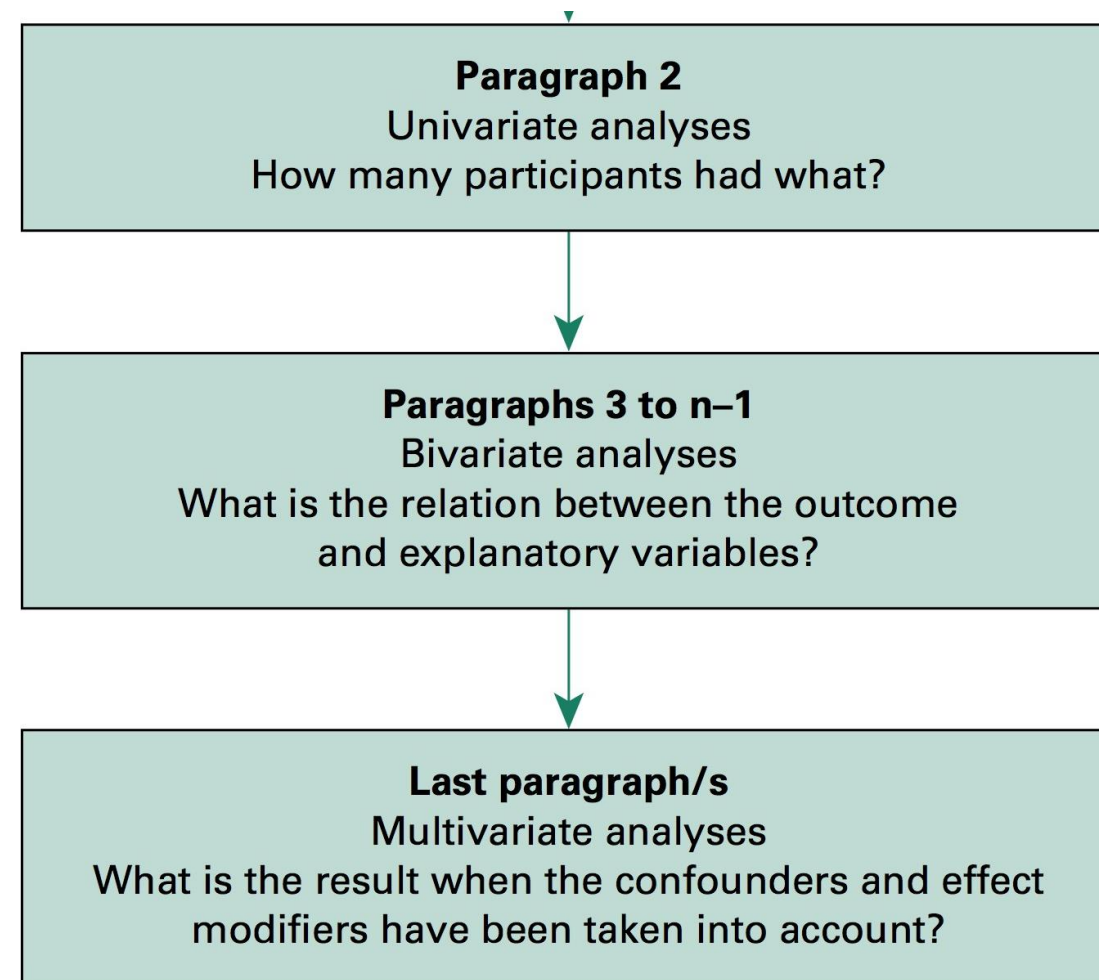
Results

- The result of the manuscript of the report should follow a certain pathway.
- The first paragraph of your result should describe the study participants and key characteristics of them because we'll have, for example, 8,000 participants who joined the study: 5,000 of them were female, 3,000 males, and we wrote the proportions for males and females. The mean age of the study participants was, for example, 52, and the standard deviation was, for example, 10. We write one or two sentences about the key characteristics of the study participants. The best thing to start the results with is having your tables and figures ready, numbering them, and then we'll write the comments in the results. In the results, we write only two or three lines about each figure or table, so please start with organizing your figures and tables, and we will write the results.



Results

- Example: study about the prevalence of smoking in Jordan. We start with background information about all participants, males and females, age, gender, education level, socioeconomic status, presence of other illnesses, regular medications. Then we'll have the primary outcomes of the study, which should come in paragraph two and the second figure or table. We start with background information, then we'll have the key findings of the study. We'll have a figure showing the prevalence of smoking for different age groups by gender, and I'll show you this example after we finish this presentation.
- The second paragraph should be about the key findings of your study, and this should be related to the table or figure that presents the primary outcome. Then we will present other outcomes or objectives of the study.



Results

- The last paragraph we usually keep for the multivariate analysis we conducted: results of the regression analysis of predictors of smoking, where, for example, age, education level, and income, etc., are mentioned; or predictors of failure to quit smoking, where for example, peer pressure or lack of self-esteem is indicated. (We'll write this as the last paragraph.) Suppose we did not identify any statistically significant predictors of this outcome/predictors of response to treatment/predictors of poor quality of life scores/predictors of failure to quit/predictors of demographic screening. If you manage to identify significant predictors, we'll show them in a table or figure, and we'll present them in the last paragraph. If you could not identify any statistically significant factor, we write that regression analysis was conducted to identify predictors of response to treatment. The following factors were assessed, and we would write them down, stating that no significant factor was identified.



Last paragraph/s

Multivariate analyses

What is the result when the confounders and effect modifiers have been taken into account?

Results

- Organize around tables/figures
- Present tabular results selectively in text
- Past tense
- No interpretation; just the facts!
- Tables should stand on their own

- One paragraph per table or figure

- • Please don't write more than one short paragraph about each table or figure in the results. The reader will see that in the tables or figures; you don't need to rewrite these figures and tables. We just show the key outcomes of findings in your study; we write them down.

Baseline characteristics	All participants	Smokers	Non-Smokers	P value
		n (%)	n (%)	
Age				
Gender				
Education				
Average monthly income				
Living in rural or urban area				
History of chronic medical disease				
Number of households				
..etc				

- This is an example of the first table in a manuscript, outlining baseline characteristics such as gender, education, average monthly income, living situation (rural or urban), history of chronic illnesses, and number of households. This data should be collected for all participants. The table can then categorize participants into different groups, such as males and females or smokers and non-smokers.
- It is important to include P values for statistical comparisons. For instance, if analyzing age, the P value may be 0.05 when comparing smokers and non-smokers or males and females. The statistical test used to obtain this P value should be specified, such as chi-square, t-test, or Mann-Whitney test. For example, if gender yields a P value of 0.1, it should be noted that this is based on a chi-square test, thus clarifying which test was employed to derive the P value.

Results

- Start with

Number of participants, key characteristics such as gender, mean or median age..

First table should be the baseline characteristics

- We should not repeat the background information. I've seen many reports and manuscripts in the first draft where people will write comments on all these factors. This is a waste of time and it's not acceptable. Just give us, for example, key things: one or two outcomes. Just comment on them in the results and that's it.
- for example, there was a statistically significant difference between smokers and nonsmokers in the average monthly income, education level, and age, as shown in Table One.
- That's it! So we start with the number of participants, key characteristics such as mean age, and then we'll describe the key findings.

Results

- We might use the key findings to present the background characteristics
- Next should be the figure or table showing the primary outcome

- The next table or figure will present the primary outcomes we are discussing, specifically focusing on quality of life scores. We will include the prevalence of hypo- and hyperthyroidism, showing figures categorized by age and gender. Additionally, we will display mortality rates associated with certain treatments by comparing the reduction in mortality between Treatment A, Treatment B, and the control group for illnesses such as diabetes and hypertension. These outcomes will be outlined in the second table or figure.

Results

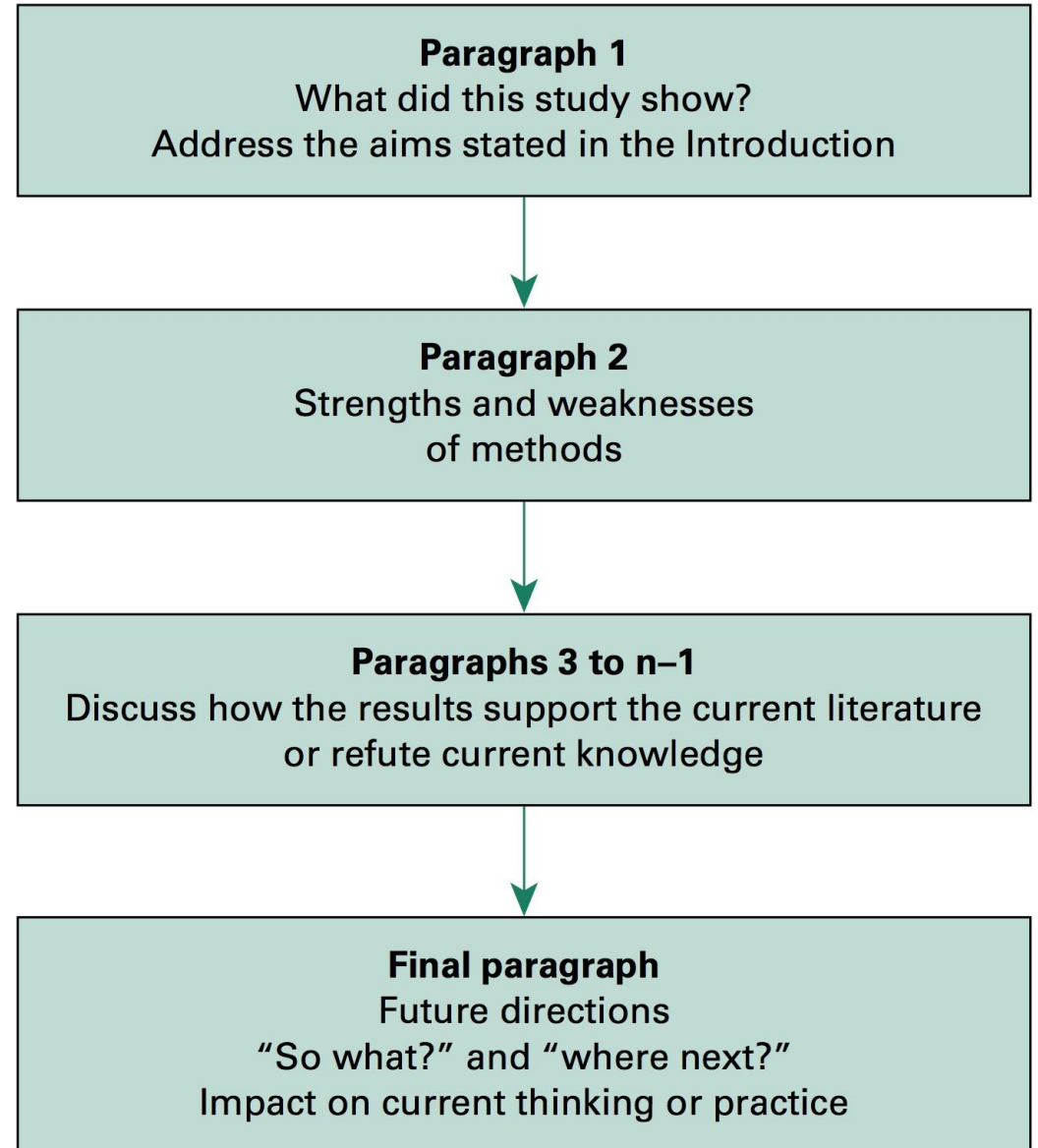
- Tables and figures talk about themselves
- Just present in two lines the key findings
- No need to repeat the background information

- we have presented our data, completed the results , made comments on them I'll show you examples in a minute

- Regression analysis: just shown table for the statistically significant predictors
- If none is significant: just write few lines that no statistically significant predictor was identified through regression analysis

Discussion

- We'll move to the discussion. The first thing in the discussion should be what this study showed. This study has shown that the prevalence of hypothyroidism is high in Jordan, with a rate of, for example, 10% compared with the regional international data. This study has shown that smoking rates are very high in Jordan. This study has shown that this new treatment is superior to the existing treatment in the control of type two diabetes. For example, we'll have a key finding, and we'll start the discussion with it. We start with the key finding and compare it with previous studies in the first paragraph. In the last paragraph, we need to reemphasize the key finding and provide some key directions. Then we write the conclusion and recommendations. So we start with key findings, and we need to reemphasize the key findings in the final paragraph and also in the recommendations and discussion.



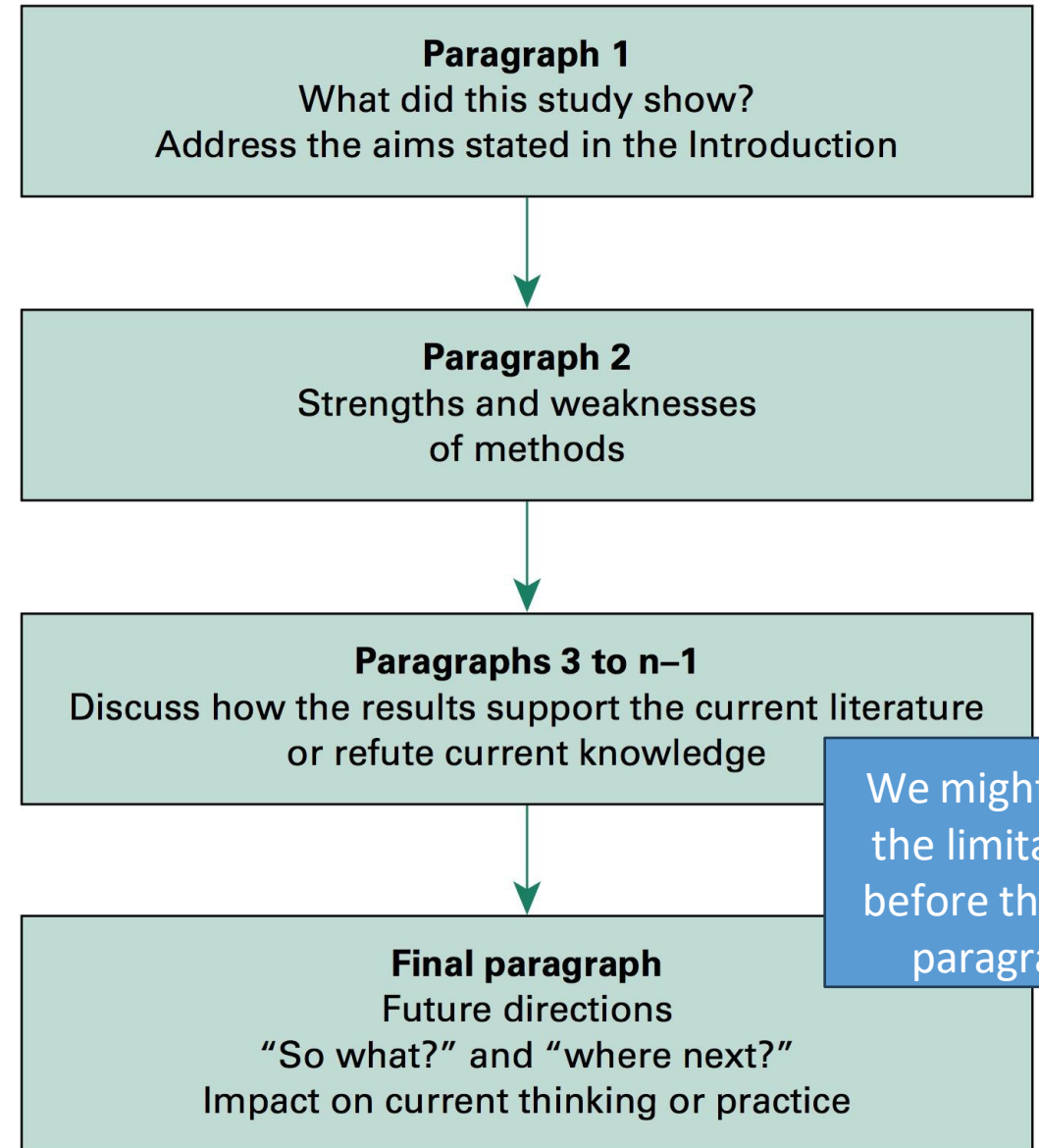
Discussion

- Paragraphs two and three discuss the strengths and weaknesses of the study. For example, we need to compare our findings with existing literature. We will focus on the key findings. The best approach to writing the discussion is to take what you have written in the results and incorporate it into the discussion, but you will delete the original text. You will not retain it; instead, you will analyze the outcomes. For instance, if you have four main outcomes, you will present these results and comment on them without repeating the results. For example, in the results, you indicated that the prevalence of smoking is 80% among males and 30% among females. In the discussion, I will state that this study has revealed a high prevalence of smoking in males compared to females. These outcomes align with regional data or previous studies from Jordan or Western countries, or these studies may not align with findings from Western countries, where studies from the United States or the UK have shown that the prevalence of smoking among males and females is similar, with no significant difference.
- We need to explain the differences in smoking prevalence between males and females in Jordan. These findings can be attributed to social and environmental factors that have contributed to the higher smoking rates among males compared to females.
- the overall quality of life scores for cancer survivors in Jordan are high, and these results are comparable to data from Western countries; scores from Jordan are better than those reported from the region. We must justify this result, as the prevalence of depression among cancer survivors in Jordan is high compared to regional and international data.

Continue to next slide

Discussion

- It may indicate a lack of psychosocial support programs for cancer survivors in Jordan, which we need to demonstrate. Additionally, we should compare our findings with existing data from previous studies conducted in Jordan, as well as regional and international studies.
- Typically, in paragraph 2, We discuss the strengths and weaknesses of the methods. If it's important to mention a strength, we usually place it here before the conclusion (before the final paragraph), although some people include it in the second paragraph.



The Discussion Section

- 1st paragraph: answer question/hypothesis
- Remainder:
 - Evidence pro and con: literature review
 - Strengths/limitations of your study
 - Implications of findings (be conservative)
 - Other findings of your study
- Last Paragraph: conclusion

Discussion

- Good phrases to begin:
 - “The results from this study showed that...”
 - “Our results indicate that....”
 - “*The purpose of this study was to...and we...etc*”
- Be bold, explain precisely what you have found and explain how it will add to current knowledge or change healthcare
- Second paragraph address the strengths and limitations
- Third paragraph should put the research in context of what is already known in the field

the dr read them

Sample first paragraph

- To the best of our knowledge, this is the largest study from the Middle East and one of the largest prospective studies worldwide showing the serotypes of *Streptococcus pneumoniae* using molecular techniques through quantitative polymerase chain reactions (qPCRs) and the classical culture-based Quellung reaction. This study revealed the urgency for the introduction of PCV vaccinations in Jordan, utilizing vaccines with a broader serotype coverage, such as PCV-15 and PCV-20. PCV-13 provides a good coverage for the currently prevalent serotypes in Jordan (61.87%), while PCV-10 has limited use locally based on this study outcome, with a coverage rate of only 45.32% of identified serotypes.

another first paragraph is the discussion

- This projects is the first quantitative study to assess the quality of life and psychological well-being for intermediate breast cancer survivors in Jordan. The majority of our study participants reported a good to high overall health, while only 5% of them reported that they had a low overall health.

Discussion

- Then we need to go through the results for comparing them with previous studies and justifying the findings
- Emotional functioning had the lowest mean score (58.98 ± 33.5 SD) within the functional scales for the QLQ-C30; 21.2% of participants reported problems in
- domain. This score is close to scores reported in Kuwait (Alawadi and Ohaeri, 2009), but slightly lower than scores reported in Bahrain (Jassim and Whitford, 2013) and Germany (Waldmann et al., 2007). The remaining scores of QLQ-C30 functional scales were also lower than those reported in Western countries (Hopwood et al., 2007; Waldmann et al., 2007). The physical functioning mean score in this study was 69.6 ± 26.1 SD, which is lower than that reported in Bahrain (mean = 74.9 ± 21.7 SD) (Jassim and Whitford, 2013) and much lower than reported from Germany (mean = 93.2 ± 6.8 SD) (Waldmann et al., 2007).

the dr read them

- In the second paragraph we go through the emotional functioning, we go for other outcomes and compare them with other studies.
- So, compare your outcomes with local and regional data

Discuss key findings in the results

the dr read them

- Leisure and imitation were the most common reasons reported for cigarette or hookah smoking. Results from Kuwait show that relief from boredom, relaxation and concentration at work were the most commonly reported reasons for smoking [14]; the most commonly reported reasons from Saudi Arabia were psychological relief and boredom [12]. Studies have shown that boredom can lead to serious problems (e.g. Internet, smoking or drug addictions). But, leisure is also regarded as an important way for people to maintain and improve their health. Leisure reduces one's own stress and help others to cope with stress [23]. Future health promotion in Jordan and the region targeting smoking cessation should also include advice for people on more beneficial use of their time, especially how they can fill their leisure time doing something meaningful for themselves and their communities.

- We need to compare these results with regional data.

Conclusion

- Try to avoid concluding that “further research is needed”
- Think about how your research could change the way medicine is practiced and what this could mean for patients and health systems.
- A good paper has answers the question it set out to study and has a clear message of how this adds to what is known

Although it is very important to write recommendations for future research, we try to avoid it as much as we can, but you need to show in the conclusion why your study is important.

Conclusion

- Scientific writing is a skill that we all have to learn
- A structured approach and being clear about your main message is the key
- Always use simple and non- emotive language, however keep your writing interesting and emphasise the bigger picture
- Every one gets rejected
- Keep trying!

We have a summary. In summary, this study has demonstrated a high prevalence of smoking among both males and females in Jordan, highlighting the need for intervention programs to control smoking and mitigate its impact on health-related issues and healthcare challenges.

Samples for conclusion

- conclusions and recommendations:
- we would like to stress the following points: Breast cancer patients in Jordan have good quality of life scores when compared with patients from Western countries. However, their mental aspects are more impaired. Around half of the patients scored average to high scores on the HADS indicating a high rate of psychological impairments. Attention should be given to the unjustified high positive surgical margin detected in this study and the incomplete axillary lymph nodes removal. There is an urgent need for psychosocial support programs and psychological screening and consultations for patients diagnosed with breast cancer at the Ministry of Health hospitals. Social services could consider finding solutions for employment and financial constraints of breast cancer survivors.
- In conclusion, we recommend that the PCV vaccine should be immediately introduced in Jordan to control the growing burden of *Streptococcus pneumoniae*. PCV-20 and PCV-15 are the recommended vaccines of choice, followed by PCV-13. Developing countries need to depend on molecular techniques in identifying the burden of different infections and to avoid underestimating this burden when relying on culture results. This is a major issue in developing countries, particularly in the presence of antibiotics' misuse. Finally, countries need to depend on local data in their NIP evaluation and updating due to variations between countries and regions in the burden of different infections and in the prevalence of different serotypes of the causative organism.

The abstract

- Only convey the most interesting and important parts of your work
- Most journals require you structure the abstract
- Limit to 250 words (MEDLINE limit)
- Results are supported by data and p values
- Interpretation of findings is clearly stated in the conclusion

So, we start with a general statement about the key findings comparing these key findings with region/ international data then we'll go for other outcomes one by one and then we'll have a paragraph of study limitations then we'll have the recommendation or the conclusion. The abstract is your paper summary most journals will ask for 250 words in the abstract one /two lines for the introduction and methodology two-three lines then we'll have the resulting paragraph and then two-three lines conclusion.

A brief synopsis of writing an abstract

- It's a minipaper:
 - Introduction (usually 1-2 sentences)
 - Methods (often longest part)
 - Results
 - Discussion/conclusion is limited to concluding statement

IMPORTANT: the doctor pointed out the methods and results and either can be the longest part and he further explained ---

- sometimes we have key findings comparing two treatments here I will write more about the methods. However, sometimes we'll have a cross-section study and have methods shorter than the results. Another example is if you have clinical trials or cohort studies where the methods are very important I will have more in the methods and less in the results.

Prevalence of Adult Thyroid Dysfunction Disorders in Jordan

Abstract

Background: Insufficient production of thyroid hormones results in hypothyroidism, while overproduction results in hyperthyroidism. These are common adult disorders, with hypothyroidism more common in the elderly. Jordan has had past problems with dietary iodine deficiency but there are no published studies assessing the population prevalence of these disorders in the Arab Middle East.

Methods: A cross-sectional study was conducted in three representative areas of Jordan. There were 7085 participants with a mean age of 40.8 years. Participants completed a questionnaire and had blood taken for thyroid analysis.

Results:*Hypothyroidism:* The prevalence of any hypothyroidism (already diagnosed and/or identified by blood testing) was 17.2% in females and 9.1% in males. Undiagnosed prevalence was 8% and 6.2% for females and males, respectively. The prevalence of subclinical hypothyroidism, defined as high serum thyrotropin (TSH) and normal serum-free thyroxine (fT4), was 5.98% among females and 4.40% among males. The prevalence of overt hypothyroidism, defined as high TSH and low fT4, was 2.00% among females and 1.80% among males. Only 53.5% (55.3% for females, 42.1% males) of those previously diagnosed with hypothyroidism had TSH levels within the appropriate range. *Hyperthyroidism:* The prevalence of any hyperthyroidism (already diagnosed and/or identified by blood testing) was 1.8% in females and 2.27% in males. The undiagnosed prevalence was 1.4% and 2.1% for females and males, respectively. The prevalence of subclinical hyperthyroidism (low TSH and normal fT4) was 1.20% and 1.80% among males and females accordingly. The prevalence of overt hyperthyroidism (low TSH and high fT4) was 0.2% among females and 0.3% among males. About 85.7% (83.3% for females, 100% males) of those previously diagnosed with hyperthyroidism had TSH levels within the appropriate range.

Conclusions: The results of this study reveal that the total prevalence of thyroid dysfunction among adult females and males in Jordan is very high compared with international statistics, particularly in the rates of undiagnosed cases. This indicates the need for further assessment of the value of screening for adult hypothyroidism in Jordan.

note: the
results are
longer than
the methods

- **Abstract:** Introduction: *Streptococcus pneumoniae* infections are a major cause of mortality and morbidity worldwide. In Jordan, pneumococcal conjugate vaccines (PCVs) are not included in the national vaccination program. Due to the current availability of several PCVs, including PCV-10, PCV-13, and PCV-15, along with PCV-20, currently undergoing pediatric approvals globally, the decision to introduce PCVs and their selection should be based on valid local data on the common serotypes of *Streptococcus pneumoniae*. Methods: This cross-sectional study aimed to identify the frequency of serotypes of *Streptococcus pneumoniae* in children aged below 5 years hospitalized with invasive pneumococcal diseases (IPDs), including pneumonia, septicemia, and meningitis, during the study's duration in representative areas of Jordan. Serotyping for culture-positive cases was based on the capsular reaction test, known as the Quellung reaction. qPCR was conducted on the blood samples of patients with lobar pneumonia identified via X-ray or on cerebrospinal fluid for those with a positive latex agglutination test for *Streptococcus pneumoniae*. Results: This study was based on the analysis of the serotypes of 1015 *Streptococcus pneumoniae* cases among children younger than the age of 5: 1006 cases with pneumonia, 6 cases with meningitis, and 3 cases with septicemia. Only 23 culture-positive cases were identified in comparison to 992 lobar pneumonia cases, which were PCR-positive but culture-negative, with a PCR positivity rate of 92%. Serotypes 6B, 6A, 14, and 19F were the most common serotypes identified in this study, with prevalence rates of 16.45%, 13.60%, 12.12%, and 8.18%, respectively. PCV-10, PCV-13, PCV-15, and PCV-20 coverage rates were 45.32%, 61.87%, 64.14%, and 68.47%, respectively. Discussion: To the best of our knowledge, this is the largest prospective study from the Middle East and one of the largest studies worldwide showing the serotypes of *Streptococcus pneumoniae*. It reveals the urgency for the introduction of a PCV vaccination in Jordan, utilizing recently developed vaccines with a broader serotype coverage.
- **Keywords:** *Streptococcus pneumoniae*; serotype; Jordan; invasive pneumococcal disease; pediatrics

Getting the Reviews of Your Paper

- “The reviewer is always right.” (whether they are or not!)
- Don't respond quickly. Digest reviews.

If you submit your manuscript to publication and you have feedback from the reviewers, please respect them and try to follow their feedback.

The doctor has explained on a paper, so please refer to the lecture from minute 31:30 and follow with what's written.

Paper Link: [Vaccines](#)

Lecture: [31:20](#)

This is a manuscript; we have the abstract, then we have the introduction. We don't often write a table in the introduction, but this time we added it because we needed to show the different available vaccines. So, we started with the description of the new pneumococcal infections, what's the causative organism, and here we talked about the burden of Strep pneumonia. Then we talked about the available vaccines and what has happened since the production of these vaccines, and we need to talk about the newly available vaccines. Finally, we have a paragraph with the introduction.

Methodology: This cross-sectional study was based on data collected on (time and date). We'll write the details about the hospital sites; you can see we included different sites, and we wrote about the number of beds at each hospital for all patients and then for pediatrics. This is the key thing that we need to describe: the study sites. Then we have the case definition: what do you mean by Strep pneumonia, what are the inclusion/exclusion criteria, and then we have sample size calculation. Then we had details about the microbiology, sample collection, and radiological findings. Then we move to the results.

[Continue to next slide](#)

Results:

The results begin with the number of participants, followed by baseline characteristics. Typically, this would be the first table in the manuscript; however, we included one in the introduction to showcase the different types of vaccines. In the results, we present variables such as gender, birth history, and other outcomes related to the background information. We then discuss the serotypes and vaccine coverage rates. We wrote that no significant factors were identified in the regression analysis, so we did not include any relevant tables or figures. We mention the baseline characteristics and predictors of vaccine coverage, including gender, region, mode of delivery, gestational age, congenital conditions, chronic illnesses, smoking, and regular medication. However, none of these factors were statistically significant. If any of them had been significant, they would have been represented in tables or figures.

Discussion: Then we compared different things, and then we talked about the burden. We have, in summary, discussed that you can see that before the end of the manuscript, our study had some limitations. We discussed them and provided information regarding the key advantages of the study, and we had a recommendation.

Advice from the doctor: read as much results and discussions from different manuscripts, you'll have more skills and you'll be more confident in writing your results and discussion.

توكل على الله ولا تعجز

VERSIONS	SLIDE #	BEFORE CORRECTION	AFTER CORRECTION
V1→ V2			
V2→V3			



امسح الرمز و شاركنا بأفكارك لتحسين أدائنا !!