

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

”الذي علم بالقلم ، علم الانسان ما لم يعلم“

صدق الله العظيم

# HOW TO WRITE A RESEARCH PROPOSAL

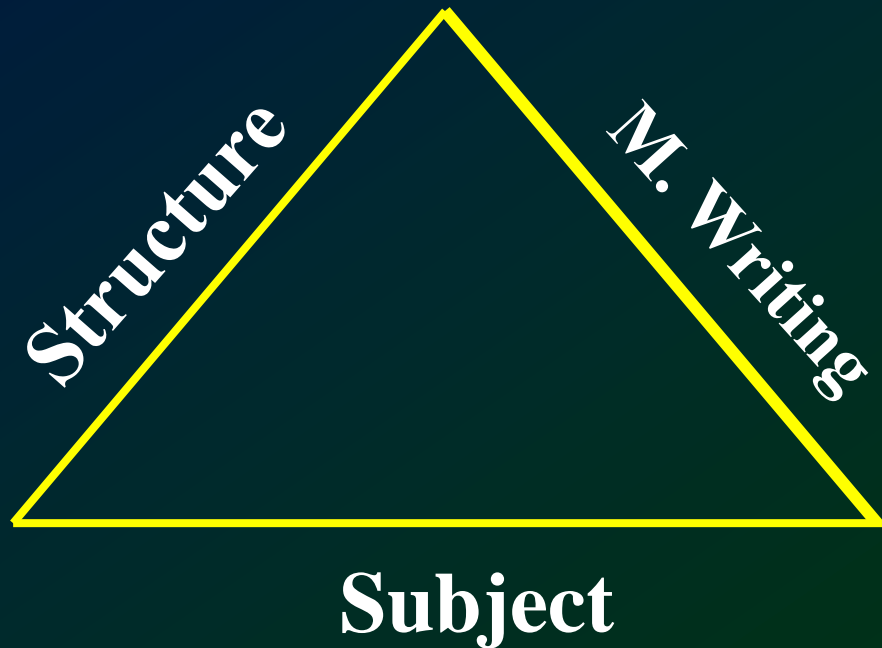
BY

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# Research Proposal

## Three Essential Requirements

“ Basic Triad “



# Research Proposal

## Three Essential Requirements

### “ Basic Triad “

I- Subject worthwhile to report.

---

Subject

# **Research Proposal**

## **Three Essential Requirements**

### **I- Subject**

- There should be an addition to the already existing literature.
- Read the relevant literature carefully.
- Make sure that you are not repeating what had been done successfully before.
- The hypothesis of your research project must be very clear and adds something new.

# **Research Proposal**

## **Three Essential Requirements**

### **I- Subject**

- It is better to spend 2 weeks reading in the library than 2 years working in the lab.
- Do not waste your time in writing a paper which will never see day-light.

# Research Proposal

## Three Essential Requirements

### “ Basic Triad “

II- Basic structure of manuscript.



# Contents of The Research Proposal

- Title page.
- Introduction.
- Aim of the work
- Materials & Methods.
- Expected outcome.
- References.



# Title Page

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.

- Title.
- Candidate Affiliation .
- Supervisors Affiliation.

# Title Page

## The Title

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.

- Informative, specific, comprehensive, and accurate stating exactly what you mean.
- Convey the maximum information with the minimum of words.
- Express (at least):
  - The main issue of the study.
  - The type of the study.

# Title Page

## The Title

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.

- **Should be considered again, again and again when the project proposal is finished.**

- **The final title is the last sentence to be written in the proposal.**

# **Title Page**

## **The Names**

**Title page.**

**Introduction.**

**Aim of the  
work**

**Materials &  
Methods.**

**Expected  
outcome.**

**References.**

**Be very careful to use only one name with the same spelling and the same initials for all your publications.**

**Example of different initials:**

**Ghoneim MA**

**Ghoneim M**

# **Title Page**

## **The Names**

**Title page.**

**Introduction.**

**Aim of the  
work**

**Materials &  
Methods.**

**Expected  
outcome.**

**References.**

**Example of different spelling:**

**Shokeir**

**Shokier**

**Shokair**

**shokeer**

# **Title Page**

## **The Names**

**Title page.**

**Introduction.**

**Aim of the  
work**

**The compound names should be  
written as one word**

**Materials &  
Methods.**

**Abd El Rahman**

**Expected  
outcome.**

**Abdulrahman**

**References.**



# Introduction

Title page.

**Introduction.**

Aim of the  
work

Materials &

Methods.

Expected  
outcome.

References.

**Definition:**

**It introduces the subject but does not develop it.**

**Objectives:**

**1- To hold the reader's attention.**

**2- To give sufficient information to whet the appetite.**



# Introduction

## Importance

Title page.

**Introduction.**

Aim of the  
work

- It sets the tone and quality of the entire project.

Materials &  
Methods.

- How a writer begins will determine whether his reader bothers to go on and how he ends will determine whether the reader is satisfied or unconvinced.

Expected  
outcome.

References.

Title page.  
Introduction.  
Aim of the  
work  
Materials &  
Methods.  
Expected  
outcome.  
References.

**SHORT  
REVIEW**

**WHAT WILL  
YOU ADD**

**INTRODUCTION**  
**Fundamental Parts**

**PROBLEMS  
&  
LIMITATIONS**

**HOW TO AVOID  
PROBLEMS**

# Introduction

## Fundamental Parts

### 1- Short Review

Title page.

**Introduction.**

Aim of the  
work

- **Should touch the core of the subject.**

Materials &  
Methods.

- **Should be concise and interesting, not boring.**

Expected  
outcome.

- **Should adequately cite the previous similar work.**

References.

- **Should be provided by some updated references.**

# Introduction

## Fundamental Parts

Title page.

Introduction.

### 2- Limitations of existing literature

Aim of the  
work

- **Convince the reader of the importance of your study.**

Materials &  
Methods.

Expected  
outcome.

- **Give reasons for investigating this particular subject.**

References.

# Introduction

Title page.

**3- How to avoid problems of previous studies**

**Introduction.**

Aim of the  
work

- You should explain how your study will help solving some of the problems of the existing literature.

Materials &  
Methods.

Expected  
outcome.

References.

# Introduction

## 4- How will you add

Title page.

**Introduction.**

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.

- You have to explain how your study will add some of the new information to those already existing in the literature.
- The rationale of the study (Study hypothesis) must be strong and very clear .

# Evaluation of the Introduction

Title page.

The reviewer asks the following questions :

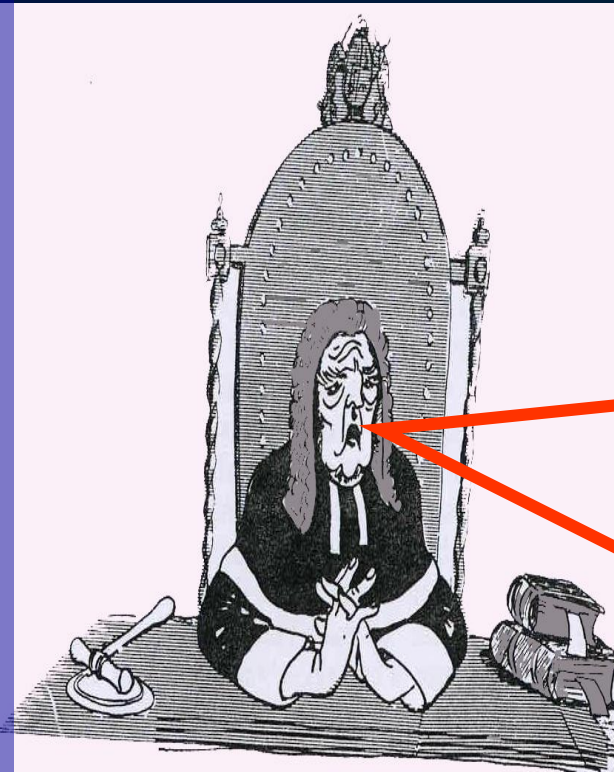
Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.



- 1- Are the objectives clear ?
- 2- Is the importance of the study adequately emphasized ?
- 3- Is the subject matter of the study new ?
- 4- Is previous work on the subject adequately cited ?





# Aim of the work

Title page.

Introduction.

**Aim of the  
work**

- The study should answer a timely and important question.

Materials &  
Methods.

Expected  
outcome.

- The aim should be achievable by the methods.

References.



**MATERIALS**

**STATISTICS**

Title page.

Introduction.

Aim of the  
work

**Materials &  
Methods.**

Expected  
outcome.

References.

**MATERIALS & METHODS**

**Fundamental Parts**

**METHODS**

**Ethical**

**DESIGN**

**Considerations**

# 1- Materials

e.g. Patients

Title page.

Introduction.

Aim of the  
work

**Materials &  
Methods.**

Expected  
outcome.

References.

- **Patients:**
  - **Number.**
  - **Demographics.**
  - **Locality of the study.**
  - **Duration of the study.**
- **Inclusion criteria.**
- **Exclusion criteria.**

# 2- Materials

e.g. Animals

Title page.

Introduction.

Aim of the  
work

**Materials &  
Methods.**

Expected  
outcome.

References.

- **Animals:**
  - **Species, strain.**
  - **Weight.**
  - **Gender.**
  - **Number.**
  - **Locality of the study.**
  - **Duration of the study.**
- **Animal Model**
  - **Full description.**

# 2- Methods

Title page.

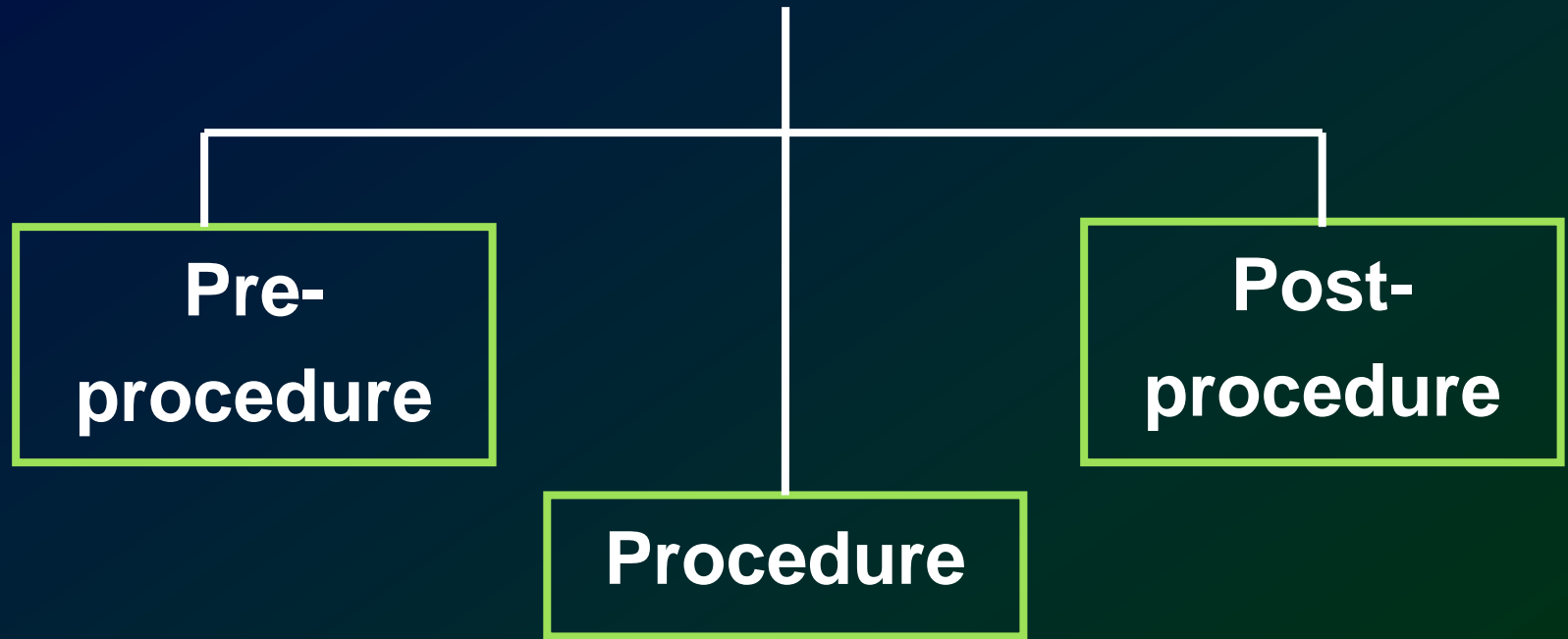
Introduction.

Aim of the  
work

**Materials &  
Methods.**

Expected  
outcome.

References.



# 2- Methods

Title page.

Introduction.

Aim of the  
work

**Materials &  
Methods.**

Expected  
outcome.

References.

## A- Pre- procedure

- **How to prepare your patient to be included in the study e.g.:**

- **History.**
- **Clinical exam.**
- **Lab.**
- **Inves.**
- **Imaging.**
- **etc.....**

# 2- Methods

## B- Procedure

Title page.

Introduction.

Aim of the  
work

**Materials &  
Methods.**

Expected  
outcome.

References.

- **Full description of the procedures e.g.**
  - **Surgical technique.**
  - **Radiological technique.**
  - **Lab. Technique.**
  - **Drug intake.**



# 2- Methods

## C- Post- Procedure

Title page.

Introduction.

Aim of the  
work

**Materials &  
Methods.**

Expected  
outcome.

References.

- **Follow-up.**

- **Tools of follow-up.**

- **Time interval.**

- **Duration.**

- **Analysis.**

- **How will you interpret your data.**

# 3- Study design

## Study Designs In Medical Research

Title page.

Introduction.

Aim of the  
work

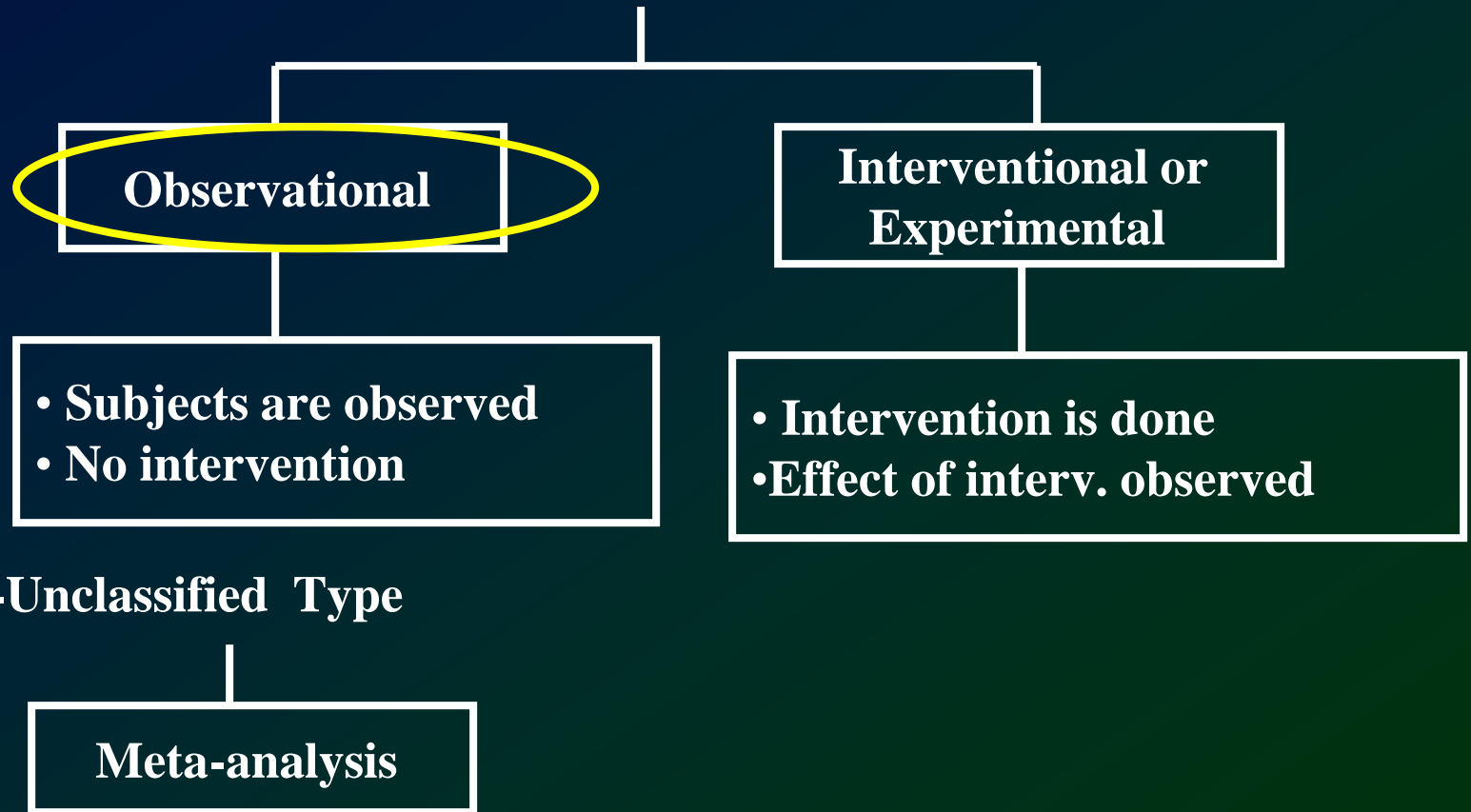
Materials &  
Methods.

Expected  
outcome.

References.

-2 Basic Types

Classification



# 3- Study Design Classification

## Observational Studies

### 4 Types

Title page.

Introduction.

Aim of the  
work

1) Case – series

Materials &  
Methods.

2) Case – control

Expected  
outcome.

3) Cross – sectional

References.

4) Cohort

# 3- Study Design Classification

## Observational Studies

Title page.

Introduction.

Aim of the work

Initial Step

Generate Hypothesis

Materials & Methods.

Case – series Studies

Expected outcome.

References.

- The simplest design
- Author describes some interesting observations
- A small number of patients
- Leading to generation of hypothesis

# 3- Study Design

## Classification

### Observational Studies

Title page.

Introduction.

Aim of the  
work

Subsequent Step

Test Hypothesis

Materials &  
Methods.

- Hypothesis generated by case – series studies are further investigated by the other 3 types of observational studies depending upon 2 factors :

Expected  
outcome.

1- Duration of Time

References.

2- Direction of Time

# 3- Study Design Classification

## Observational Studies

### Types

1- Duration of Time

One time only

Extended period of time

Cross – Sectional Study

- Case – control
- Cohort

Longitudinal

Title page.

Introduction.

Aim of the work

Materials & Methods.

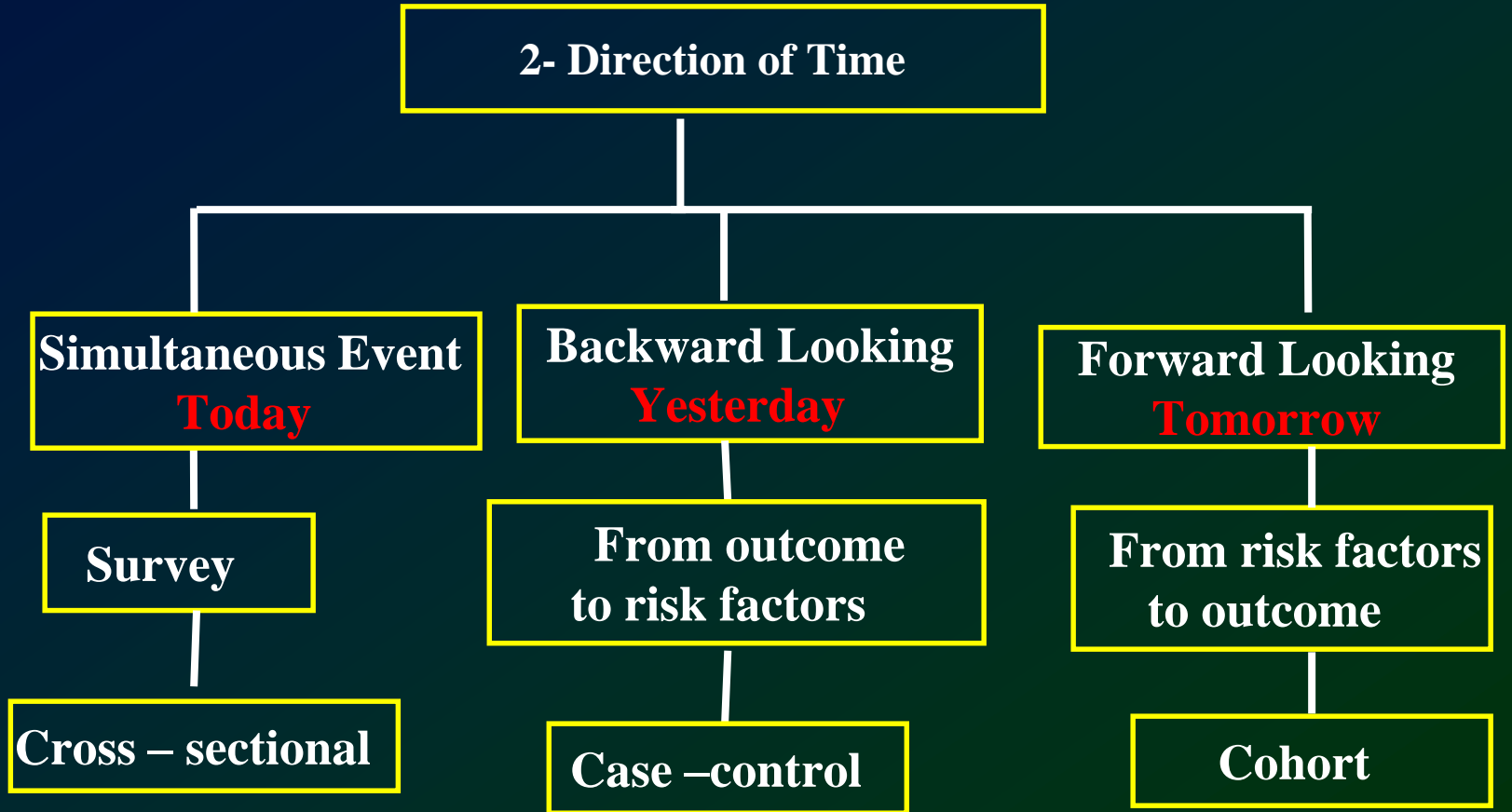
Expected outcome.

References.

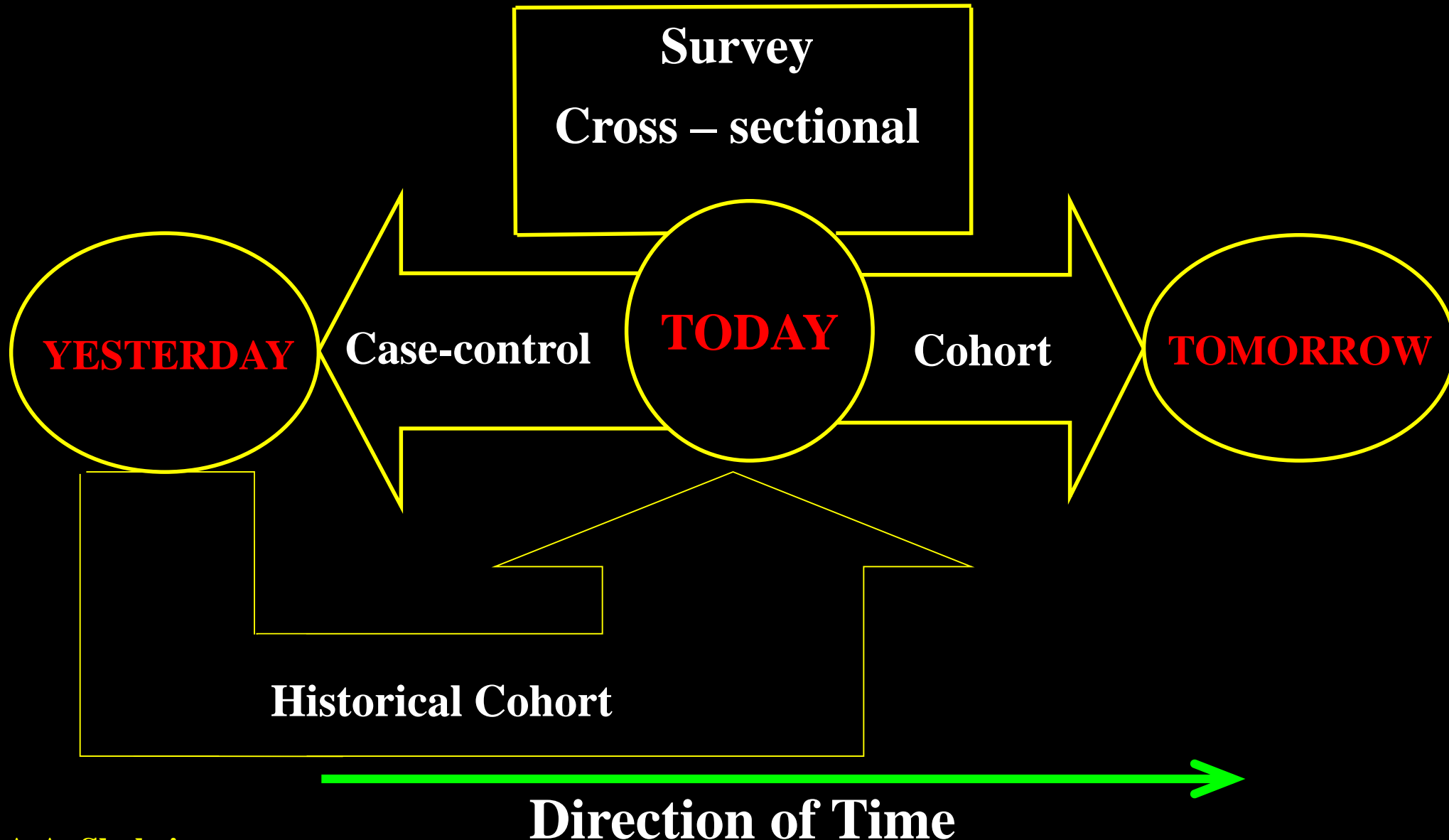
# 3- Study Design Classification

## Observational Studies Types

Title page.  
Introduction.  
Aim of the work  
Materials & Methods.  
Expected outcome.  
References.



# Time relationship among observational studies





# 3- Study Design

## Time Relationship Among Observational Studies

Title page.

Introduction.

Aim of the work

**Materials & Methods.**

Expected outcome.

References.

| Study           | Time          | Terminology   | Question           |
|-----------------|---------------|---------------|--------------------|
| Cross sectional | Right now     | Survey        | What is happening? |
| Case-control    | In the past   | Retrospective | What happened?     |
| Cohort          | In the future | Prospective   | What will happen?  |

# 3- Study design

## Study Designs In Medical Research

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.

-2 Basic Types

Classification

Observational

- Subjects are observed
- No intervention

Interventional or  
Experimental

- Intervention is done
- Effect of interv. observed

-Unclassified Type

Meta-analysis

# 3- Study design Classification

Title page.

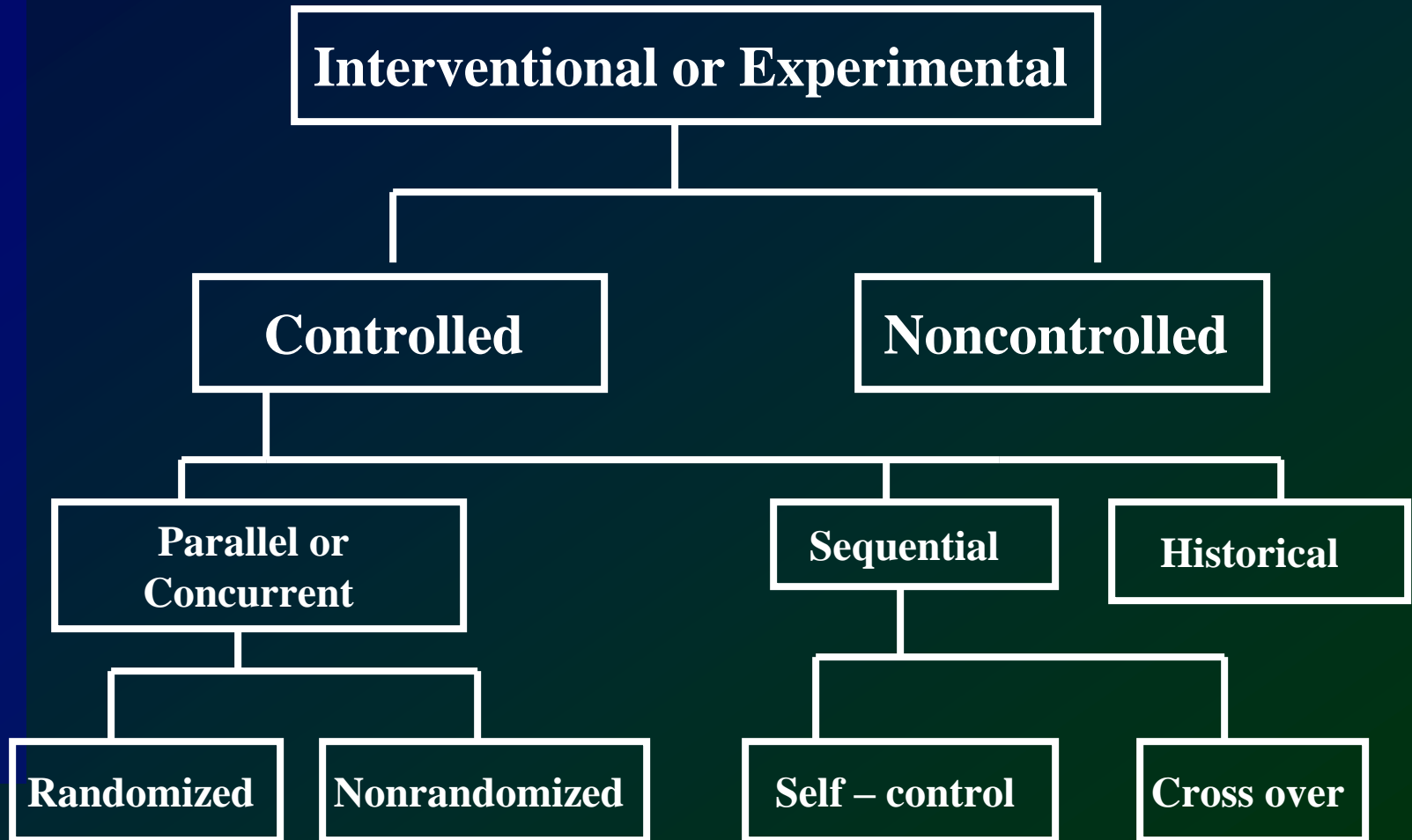
Introduction.

Aim of the work

Materials & Methods.

Expected outcome.

References.



# 3- Study design

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.

## Types of control in RCT

- **Types of controls in RCT**

- 1) **Gold standard , reference standard , or standard of care.**
- 2) **Placebo**
- 3) **Sham**

# 3- Study design

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.

## How To Do Randomization

The most common:

Closed envelop

Computer generated random tables.

# 3- Study design

## Masking

### Randomized Clinical Trials (RCT)

Title page.

Introduction.

Aim of the  
work

Materials &

Methods.

Expected  
outcome.

References.

| Types           | Patient | Doctor |
|-----------------|---------|--------|
| 1- Open-label   | √       | √      |
| 2- Blind        | X       | √      |
| 3- Double Blind | X       | X      |

# 3- Study design

Title page.

Introduction.

## **RCT<sub>s</sub> As part of Drug Approval**

Aim of the  
work

- RCT<sub>s</sub> are not suited to the initial investigation of a new treatment.

**Materials &  
Methods.**

Expected  
outcome.

- When used as part of the drug approval process, RCT are frequently referred to as phase III trials.

References.

# 3- Study design

Title page.

Introduction.

Aim of the  
work

**Materials &  
Methods.**

Expected  
outcome.

References.

## Phases of Pharmaceutical Trials

### Phase I Trial

- Initial efforts to administer the treatment to human being.
- It includes experimental animal studies to adjust the dosage regimen and to evaluate potential toxicities.
- It also includes human volunteers.
- It provides only a preliminary look at the potential efficacy of the therapy.



# 3- Study design

## Phases of Pharmaceutical Trials

### Phase II Trial

Title page.

Introduction.

Aim of the  
work

- Usually small-scale controlled or uncontrolled trials.

Materials &  
Methods.

Expected  
outcome.

- The aim is to establish whether full-scale

References.

RCT should be conducted.

# 3- Study design

Title page.

Introduction.

## Phases of Pharmaceutical Trials

Aim of the  
work

## Phase III Trial

Materials &  
Methods.

- It is a classic RCT.
- The FDA requires 2 independently conducted RCT before reviewing a drug for approval.

Expected  
outcome.

References.

# 3- Study design

## Phases of Pharmaceutical Trials

### Phase IV Trial

Title page.

Introduction.

Aim of the  
work

**Materials &  
Methods.**

Expected  
outcome.

References.

- Post marketing trials.

- Studies after FDA approval and use of  
the drug in the market.

# 3- Study design

Title page.

Introduction.

Aim of the  
work

**Materials &  
Methods.**

Expected  
outcome.

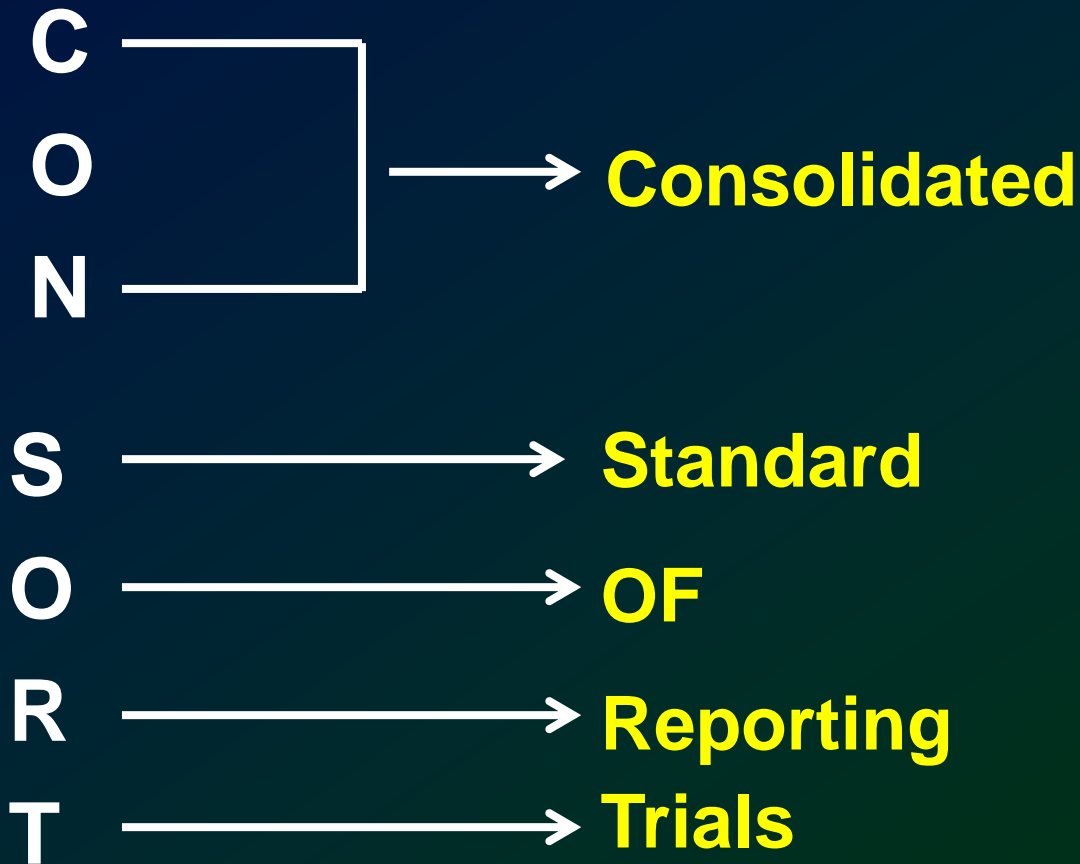
References.

## Sample Size

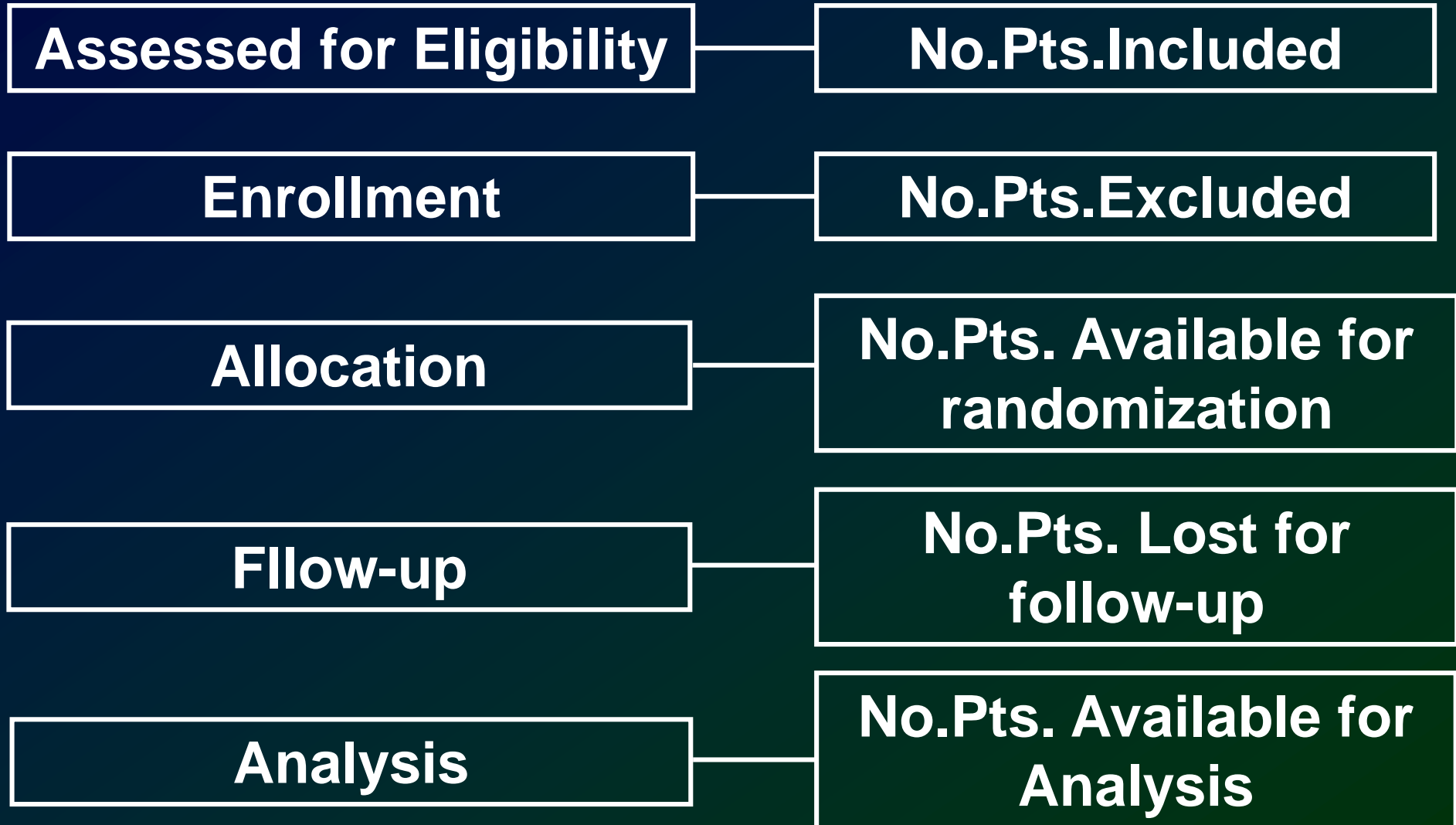
- Calculation of sample size is an integral part of RCTs.

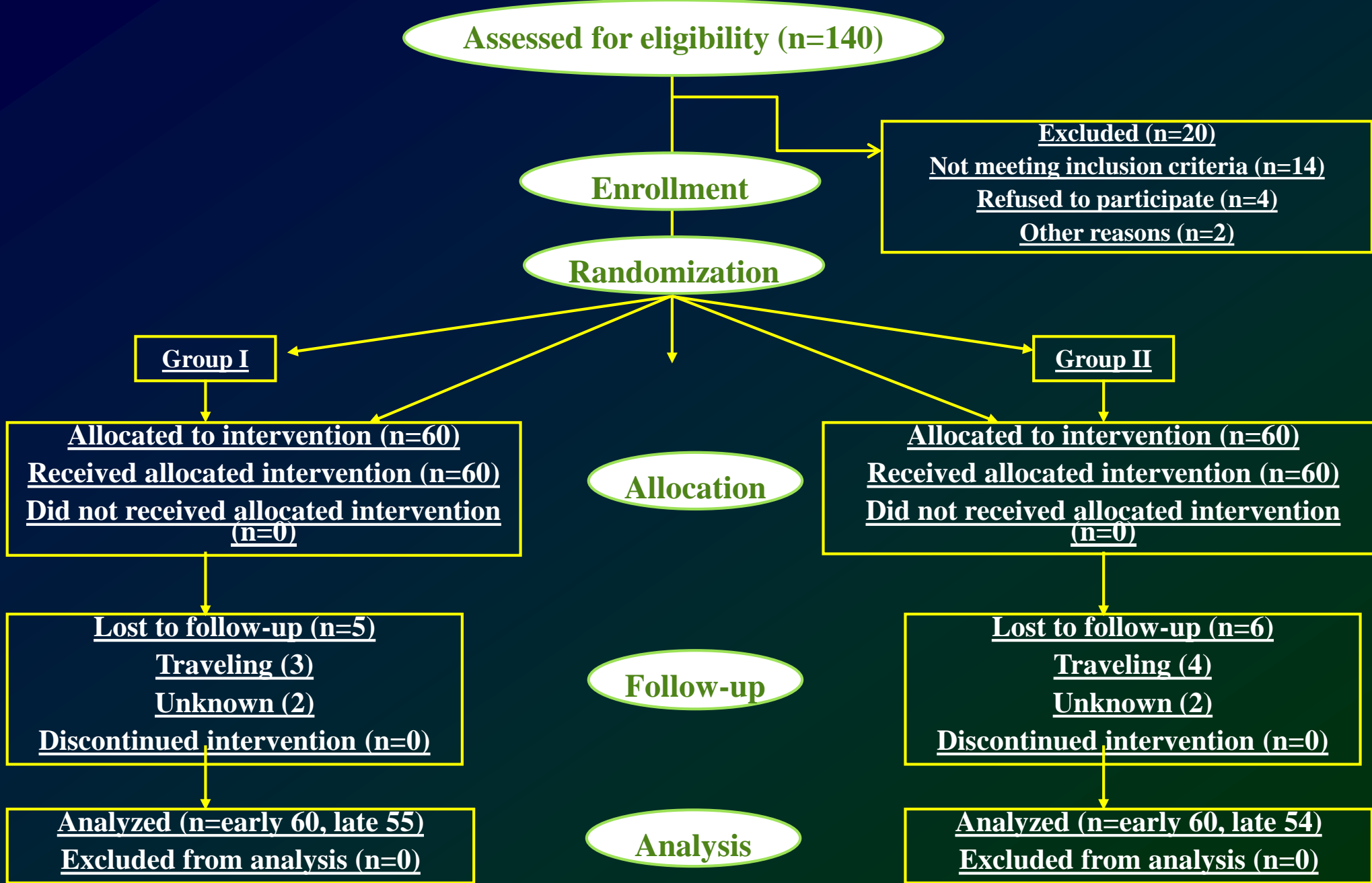
# CONSORT flow chart

- It is an integral part of any RCT



# CONSORT flow chart (5 stations)





**CONSORT flow chart**

# 4- Statistical Analysis

Title page.

Introduction.

Aim of the  
work

**Materials &  
Methods.**

Expected  
outcome.

References.

● In biological sciences, all measurements are inexact. The only way to describe this variability is to use statistics intelligently.



# 4- Statistical Analysis

Title page.

Introduction.

Aim of the  
work

- **Univariable.**

**Materials &  
Methods.**

- **Bivariable.**

Expected  
outcome.

References.

- **Multivariable.**

# 5- Ethical Considerations

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.

- **Consent.**
- **Approval by the ethical committee.**
- **Funding.**
- **Conflict of interest.**
- **Declaration of Helsinki.**

# Materials And Methods

## General Advice

Title page.

Introduction.

Aim of the  
work

**Materials &  
Methods.**

Expected  
outcome.

References.

- Only new methods are described in details.
- Previously published methods:
  - Common: Enumeration + reference.
  - Uncommon: Short summary + reference.
- Do not lose your objective. All methods used should be devoted to satisfying the objectives.

# Evaluation of the Materials and Methods

Title page.

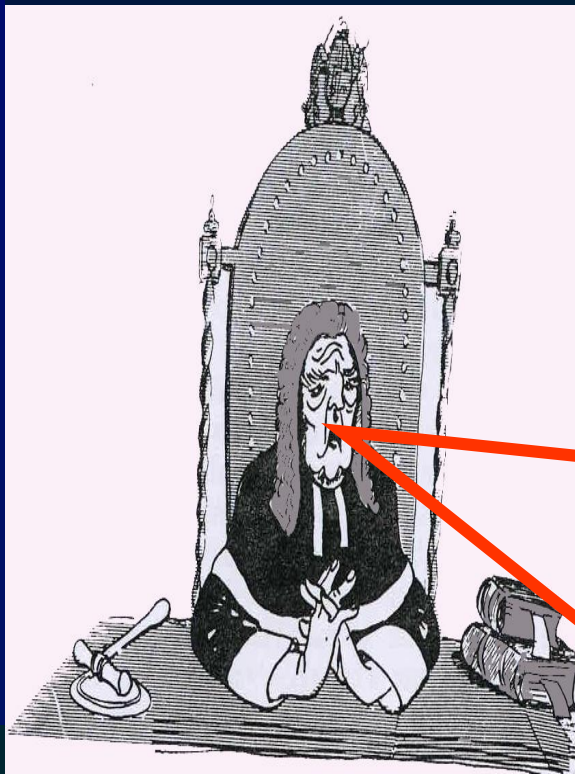
Introduction. The reviewer asks the following questions :

Aim of the  
work

**Materials &  
Methods.**

Expected  
outcome.

References.



- 1- Is the study population detailed adequately ?
- 2- Are the methods described well enough to reproduce the experiment?
- 3- Is the study design clear ?
- 4- Are statistical methods included ?



# Expected Outcome

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.

- What is your expectations?
- How your study will add to the scientific community?
- Are there any economic benifits?



# REFERENCES

## Styles

**1- Alphabetical: For thesis.**

**2- Vancouver: For Journals.**

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.



# REFERENCES

## Alphabetical Style

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.

● In the text :

*Shokeir, 2016*

*Shokeir and Ghoneim, 2016*

*Shokeir et al., 2016*

# REFERENCES

## Alphabetical Style

- In the reference section:

### Journal Reference

- Authors (Family, Initials)
- Year
- Title
- Journal
- Volume
- Pages (First-last)

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.

# REFERENCES

## Alphabetical Style

### In the reference section

#### Book Reference

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

**References.**

Author of the chapter

Chapter title, In

Names of editors

Book title

Year

Publisher (Company, town, country).

Pages of the chapter (first - last).

# REFERENCES

## Arrangement

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.

- References are arranged in the reference section alphabetically without numbers.

# REFERENCES

## General Advice

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.

- Each journal has its own style of references (house-style).

- All references should be written in the same style with the same arrangement.

# REFERENCES

## General Advice

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.

- Recent references are better than old ones.

- A book reference is of the least significance.

# REFERENCES

## General Advice

Title page.

Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.

- **The integrity of the references is the responsibility of the authors only (neither the referee nor the journal).**

# REFERENCES

## Evaluation of References

Title page.

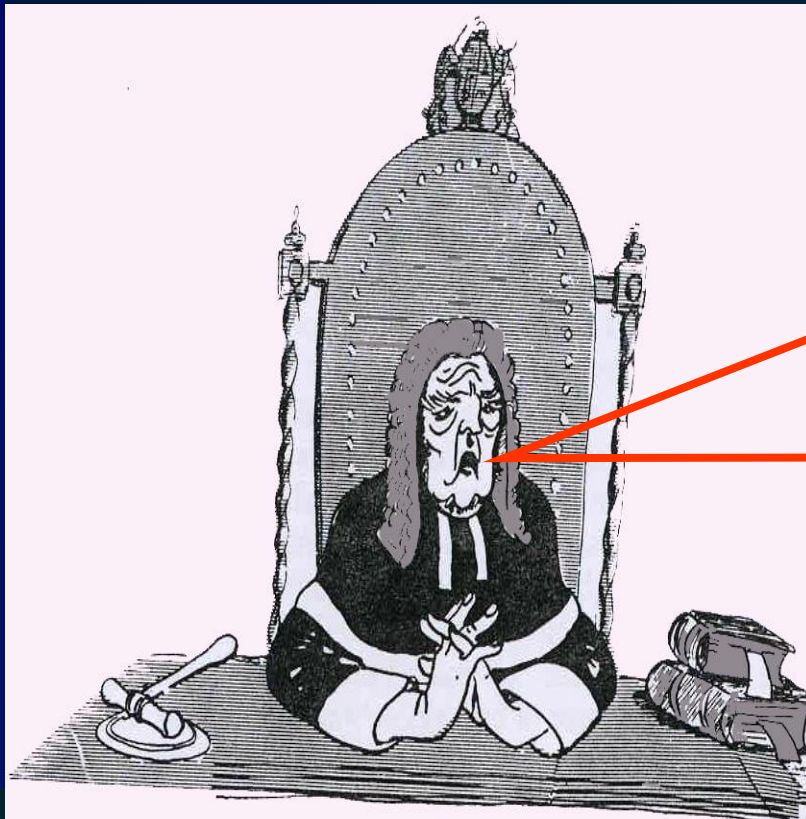
Introduction.

Aim of the  
work

Materials &  
Methods.

Expected  
outcome.

References.



If you are lax with the references you may have been lax with the entire protocol.



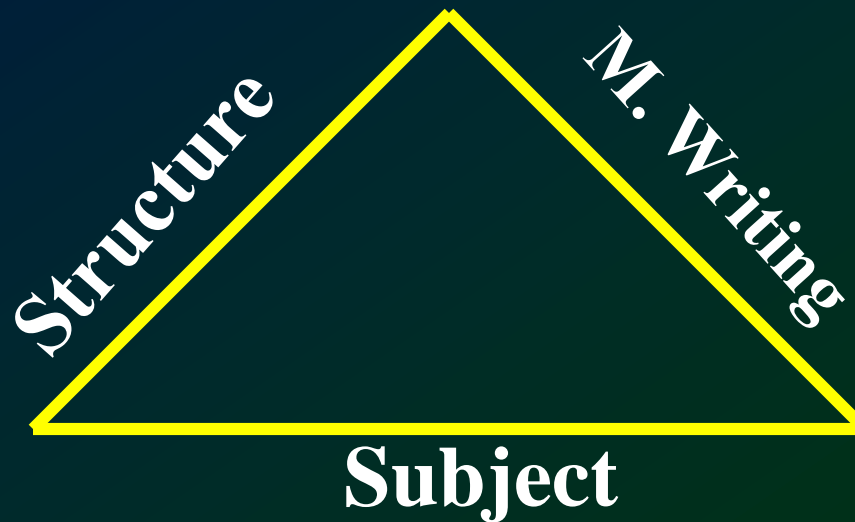


# Research Proposal

## Three Essential Requirements

“ **Basic Triad** ”

III- Mechanics of Writing.



# Verb Tenses

Introduction

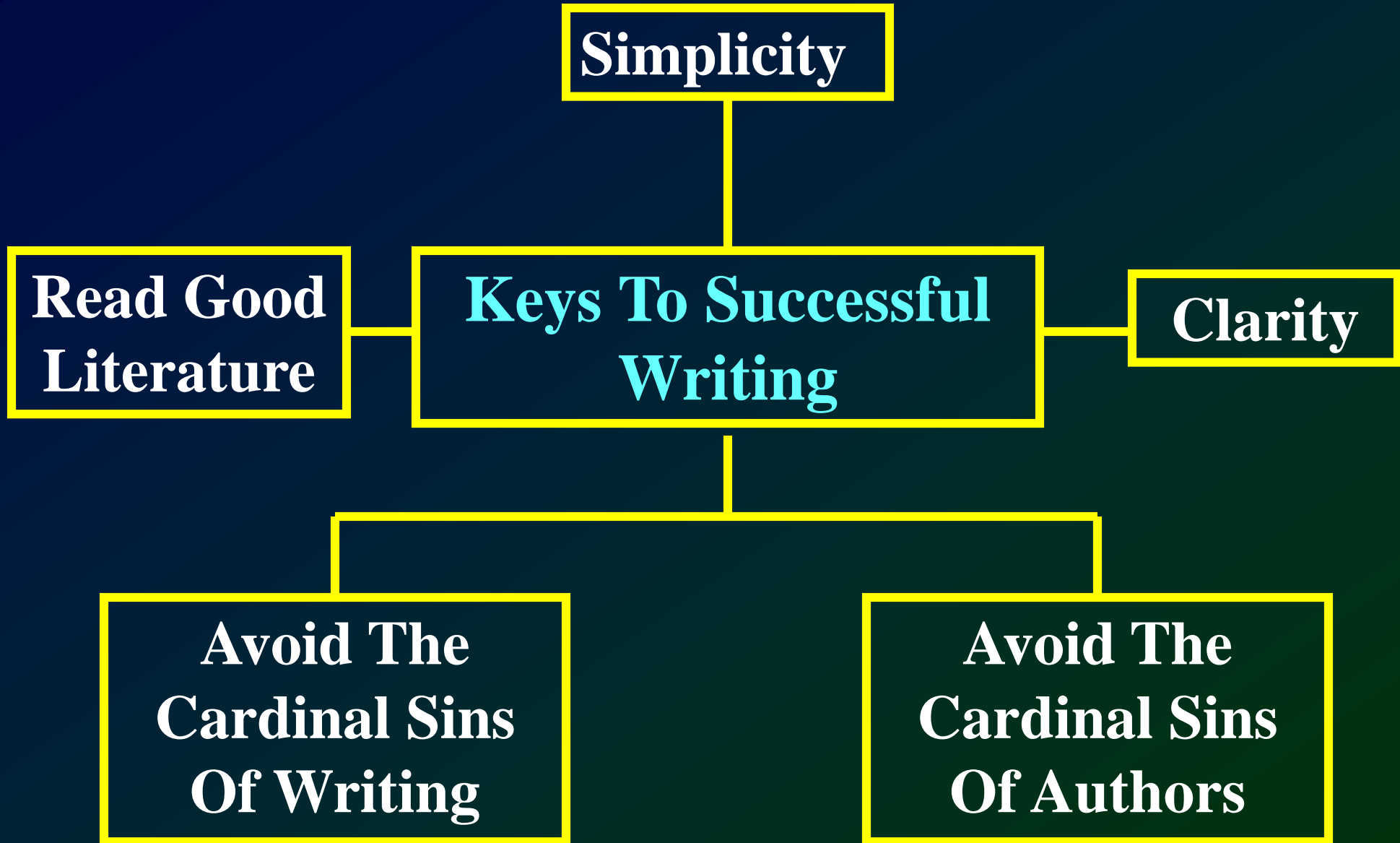
Present

Methods

Future

Expected  
outcome

Future



**Repetition**

**Lack of Clarity**

**Wordiness**

**Cardinal Sins  
Of Writing**

**Use of Jargon**

**Pretentious  
writing**



**Dual Publication**

**Plagiarism**

**Salami**

**Cardinal Sins Of  
Authors**

**im a laS**

**Forgery**

***THANK YOU***



***A. A. Shokeir***