

Presentation by

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“Fundamental Steps of Thesis Writing” From Perfect to perfection

PROFESSOR

Post-Graduate Department of Pharmacology

Government Medical College, Jammu (J&K)

Editor In Chief

JK Science Journal of Medical Education and Research (EMBASE)

Journal Midlife Health (MEDLINE/PUBMED) 2020-2022

Why this topic



- **Uniform Writing and submission as per university Guidelines**
- **No rejection on grounds of style**
- **To Make IEC/IRB Clearance easy**
- **But there is no Replacement To Your Guide**

University of Jammu Guidelines

- **Teacher Student Ratio- 1:3 or in exceptional case 1:2 only in clinical side for Professors and Unit Heads for eligible Guide(5 year Post PG Teaching Experience as Faculty). In pre and para clinical side 1:2**
- **80% minimum attendance of the training period**
- **>30days only medical leave**
- **>90 days registration/admission cancelled**
- **IEC Clearance necessary**
- **Board of Studies Clearance mandatory**
- **No change of subject of thesis/Guide permitted except under following conditions:**
 - ***plan rejected by board***
 - ***work cannot be completed and is beyond the control of candidate***
 - ***when guide leaves the institution for more than six months***

- Four copies to reach controller of examinations through principal well before prescribed period
- No paper to be published or presented before declaration of results
- English , white bond paper 22x28cm, with margin of 3.5 cm with matter only on one side of the paper, font size- 12 or 14, New time roman or arial with references as Index medicus.
- No repetition with same university for last 5 years of the subject/thesis
- **Co- Guide:**
- **New Statues: dated 25/09/23-thesis topic with ix month of his joining from start of 1st year of PG**

Thesis Evaluation

- **Approved-** at least three examiner
- **Returned for improvement-** two or more have suggested
- **Rejected-**2 have rejected.

- *Acceptance of thesis is precondition for written or oral examination*

- *A candidate whose thesis stand approved but fails in examination shall not have to submit fresh*

Process of Thesis

Research question

Plan of thesis/Research

IEC/IRB Clearance

Review

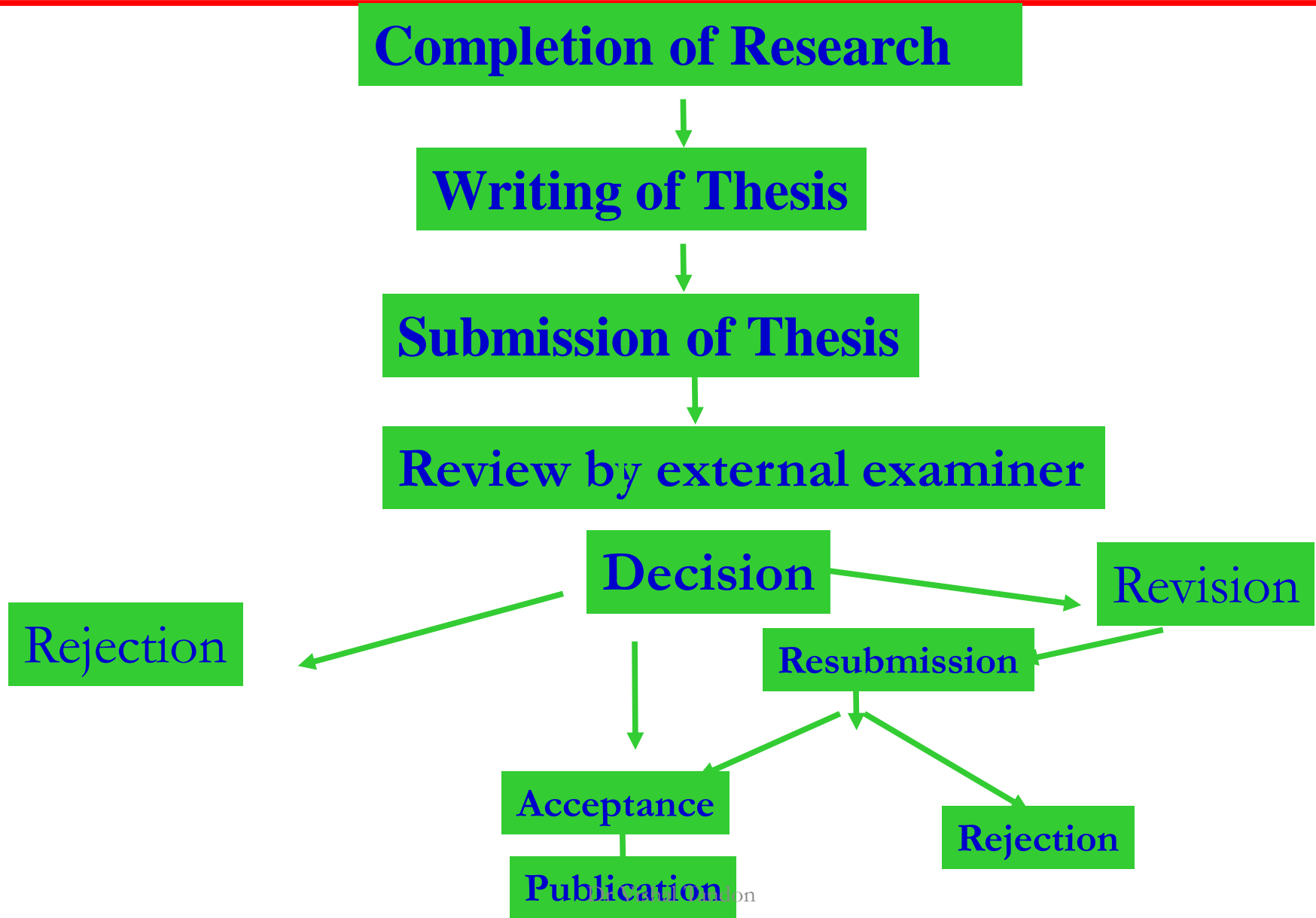
Decision

Revision

Rejection

Permission Granted

Process of Research



Necessary Certificates

- **Brief bio-data**
- **Guide-** Certifying originality of Research and supervision
- **HOD-** Certifying availability of work facilities for the research work in the department
- **Head of Institution-** Certifying availability of work facilities for the research work in the Institution
- **IEC/IRB certificate**
- **Conflict of interest Declaration if any**
- **Acknowledgements**
- **Informed consent –Three languages**

Writing the Synopsis/ Thesis

- **Necessary Certificates**
- **Title**
- **Introduction**
- **Review of literature**
- **Aim & Objectives**
- **Materials and Methods**
- **Statistical methods**
- **Results**
- **Discussion**
- **Conclusion and Summary**
- **References**
- **Appendices**

Writing the Research Paper

- **Necessary IEC Certificates/CTRI Number/Regulatory approval if applicable**
- **Title**
- **Abstract (Structured/Non Structured as per Requirement)**
- **Key Words (MeSH)**
- **Running Title**
- **Introduction**
- **Aim & Objectives**
- **Materials and Methods**
- **Statistical methods**
- **Results**
- **Discussion**
- **Limitation of the study**
- **Conclusion**
- **References**
- **Figs & Table**
- **Appendices**

Title of Research

- Simple specific and concise, but informative**
- Interesting and eye-catching but no over-claiming**
- Accurate and specific about paper's content**
- State the subject in full**
- May Indicate study design, animal species**
- Grammatically correct**
- Avoid long title (see previous article in journal)**
- Avoid abbreviations**
- Avoid repetition of aims and objective**
- Should not conclude the study**
- Should not State results**

What is wrong in the title

Incorrect

- To Evaluate Efficacy And Safety of *Caralluma Fimbriata* In Overweight And Obese Patients With Or Without Associated Co-Morbid Conditions in Jammu Region

Correct

- Efficacy and Safety of *Caralluma Fimbriata* In Overweight and Obese Patients: A Randomized Double Bind Placebo Control Study

What is wrong in the title



Incorrect

Metformin increases cancer specific survival in colorectal cancer patients-National cohort study.

Correct

- **An Effect of Metformin on cancer specific survival in colorectal cancer patients- A National cohort study**

In-Correct

Is fasting plasma glucose in early pregnancy a better predictor of adverse obstetric outcomes than glycated haemoglobin?

Correct

Fasting plasma glucose Vs glycated haemoglobin in early pregnancy for prediction of adverse obstetric outcomes : A Comparative Clinical Study



In- Correct

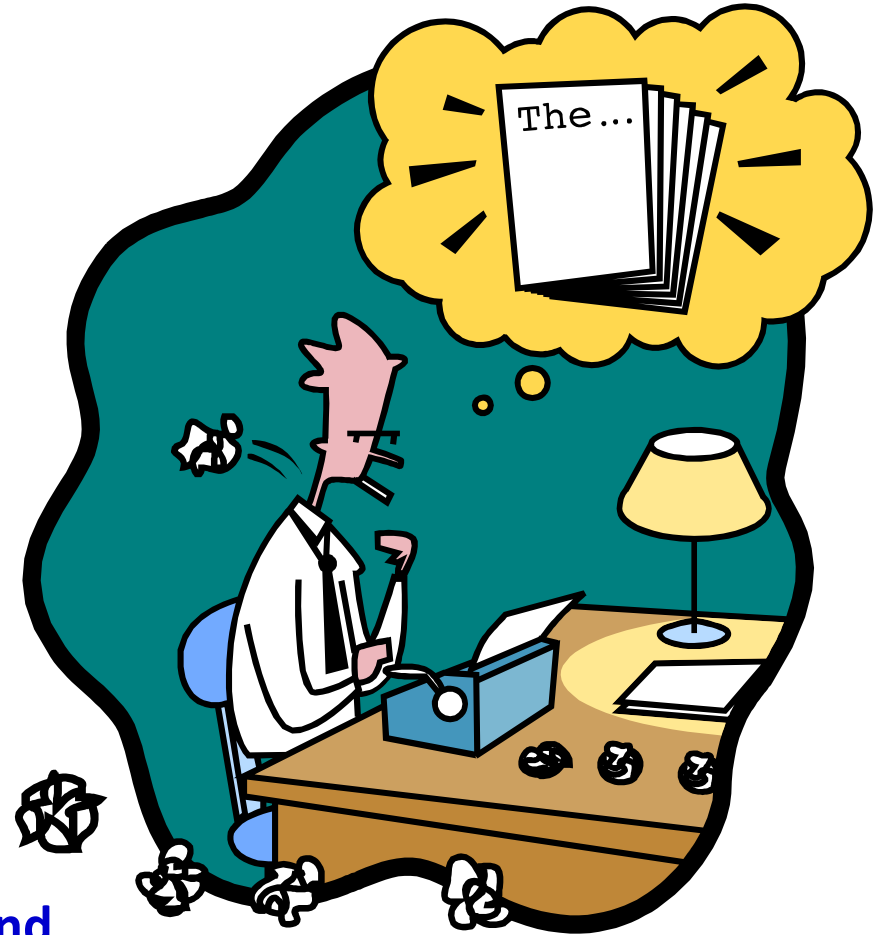
First Indian study evaluating role of biochemical investigations and diagnostic tools in detection of adverse drug reactions.

Correct

Role of biochemical investigations and diagnostic tools in detection of adverse drug reactions: A Retrospective Observational Study

Can Use design in Title

- **Observational study**
- **Cross sectional study**
- **Prospective/retrospective**
- **One point analysis**
- **Randomized**
- **Placebo control**
- **An Open label study**
- **An Add on**
- **Concurrent parallel study design**
- **Longitudinal Study**
- **Cross over study**
- **Sequential Study**
- **Single blind / Double Blind/ Triple blind**
- **Intention to treat trial**
- **Preliminary study**



Sir Bradford Hill's Questions

I	Introduction	Why did you start?
M	Methods	What did you do?
R	Results	What did you find?
A	and	
D	Discussion	What does it all mean?

Summery How to write

Introduction

- Essentially this section must introduce the subject
- Should reflect **Volume of the problem**
- Give a concise **background of the study**
- **Do not review literature extensively** but provide the most recent work that has a direct bearing on the subject. **Reflect the gap in the knowledge briefly**
- **Rationale and Justification** for research aims and objectives must be clearly mentioned without any ambiguity.
- What **new It is adding**
- **Significance and relevance** of study
- The purpose of the study should be stated at the end.

Example

We wish to suggest a structure for the salt of deoxyribose nucleic acid (D.N.A.). This structure has novel features which are of considerable biological importance.

Watson JD, Crick FHC. A structure for deoxyribose nucleic acid. Nature 1953; 171: 737-8.

Problems

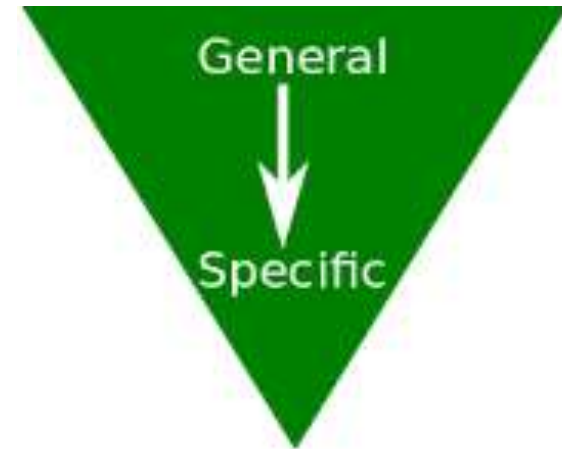
- Historical details
- Frequently too long
- Too general and vague
- Contains ‘discussion’ material
- Mechanism
- Imitative (**Copying Some one**)
- Chemical Structures
- Details of the research design
- information that is not directly relevant to your study
- Problems other than the one being examined



Review of literature



- How far similar research problem has been studied
- Understand limitations in those studies
- Critically assess the required modifications
- **WIDE TO NARROW TO SPECIFIC**

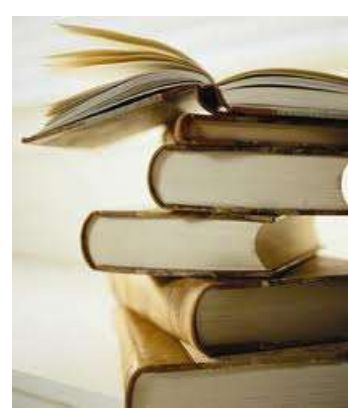


Common agencies

- Pubmed central
- Pubmed
- DOAJ
- Cochrane database
- NLM
- Science Free
- Medical Journals List
- Biology & Medicine
Online Journals
- EMBASE
- Indexcopornicous
- Google's
- Google's scholars
- Yahoo search
- Indmed



Writing Review of literature



- **Avoid Cut copy paste**
- **Chronologically write Findings of the previous study**
- **Till the latest reference**
- **Conclude your review**
- **Always better to review western/Indian/regional data**
- **End the review with rationale justification for conducting study**

Chacko SA et al (2012) in their prospective cross sectional epidemiological study documented that higher serum 25(OH)D concentrations may be inversely associated with adiposity, triglycerides, triglyceride: HDL-cholesterol ratio, and metabolic syndrome but are not associated with LDL and HDL cholesterol, insulin, glucose in postmenopausal women.

Most recently it was documented that low Levels of 25-Hydroxy Vitamin D and active 1,25-Dihydroxyvitamin D is independently associated with Type 2 Diabetes Mellitus in older Australian men. (**Hirani V et al, 2017**)

Objectives

- Objectives are concise statements of the major and minor questions that the trial is designed to answer
- In all areas of research asking the right question is perhaps the most important part of research

How many Objectives

- **One or two maximum three**
- **Too Many Objective become difficult to meet and study start becoming directionless and purposeless and it decreases the chance of its successful completion**

Stating the objectives

- Reason for doing the study
- **Use action verbs** : To determine, to compare, to verify, to describe, to establish, To evaluate, To find correlation, analyze
- **Avoid verbs** : To appreciate, to comprehend, to realize

What Come first Trial Objective or Design

- **Design is the framework with which the trial objectives will be met**
- **The design is generally established after the trial objectives**

Always better to have

- **Primary Objective**
- **Secondary Objectives**



- **Study Design**
- **Randomization**
- **Blinding**
- **Time and duration of study**
- **Place of study and collaborating Department**
- **IRB/IEC Clearance/Regulatory Clearance**
- **Clinical trial registration Number**
- **Informed consent**
- **Define study population and number**
- **Explain protocol clearly**
- **Detail of Baseline Clinical/ Biochemical Screening**

- Inclusion criteria
- Exclusion criteria
- Define Study Groups allocation Clearly
- Detail of Methods with original references
- Clearly define if any modification made
- Basis of Dose selection – Important
- Principles of precaution and risk minimization
- Assessment of Outcomes- primary and secondary
- Very Important to Define Parameters of Evaluation and their Time protocol and their interpretation
- **CONSORT – Flow diagram**



CTRI India at NIMS (ICMR)

- CTRI is a primary registry of the International Clinical Trials Registry Platform (ICTRP) (<http://www.who.int/ictrp/search/en/>). Registered trials are freely searchable both from the WHO's search portal, the ICTRP as well as from the CTRI.
- All clinical trials conducted in India to be **prospectively** registered, i.e. before the enrolment of the first participant.
- It also accept registration of trials conducted in other countries in the region, which do not have a primary registry of its own.
- The Clinical Trials Registry- India (CTRI), hosted at the ICMR's National Institute of Medical Statistics (NIMS), **is a free and online public record system for registration** of clinical trials being conducted in India from 2007. (www.ctri.nic.in)
- Initiated as a voluntary measure, **since 2009, trial registration** in the CTRI has been made mandatory by the Drugs Controller General of India (DCGI).
- Editors of Biomedical Journals of **11 major journals of India declared that only registered trials would be considered for publication.**

Parallel study design With Placebo

PATIENTS OF COPD WITH OA

120 PATIENTS

Inhaled Salbutamol X 2WK+ Exercise +Local treatment
of Joint 2 WK

RANDOMISATION

GROUP I n=60
Diacerine 50 mg daily+
Inhaled Salbutamol+
Exercise+ Local T/t

GROUP II n=60
Placebo+
Inhaled Salbutamol+
Exercise +Local Joint T/t

Post Drug **Objective Parameters** like lung functions (FEV_1 and FVC, FEV, FEF25-75) And **Subjective Parameters** like improvement in respiratory symptoms, QOL & safety (BP, HR, ADR) were assessed and Compared

STATISTICAL ANALYSIS

Patients above 55 years
Both sexes
Patients giving consent
COPD with OA
Stable COPD
FEV1 <60%
FEV1/FVC Ratio <70%
One Knee Joint Involved
with mild to moderate
OA

Chronic respiratory
disease other than COPD,
Asthma
Unstable respiratory status
Recent viral ,bacterial
Pulmonary infection
Continuous daily oxygen
requirement
Congestive cardiac failure
Inability to discontinue
COPD medication
Uncooperative
H/O sensitivity to any of
the drugs
Patients not giving consent
Patients taking drugs likely
to interact with the drugs
under study
NSAID, Corticosteroids,
Glucosamine or DA
requirement must

Results

- **Start with demographic and baseline results**
- **Results of all experiments in natural order in subsections similar to methods and parameters evaluated**
- **Do not duplicate information text, tables, figures**
- **Statistical analysis**

Results

- *Should not include*
 - Any methods
 - Data for which methods are not included
 - Interpretation of data
 - References

Results

- Results may be presented in the form of
- Frequency distribution tables or
- Using diagrams such as bar diagram, pie chart, pictogram, histogram, line diagram, scatter diagram etc.

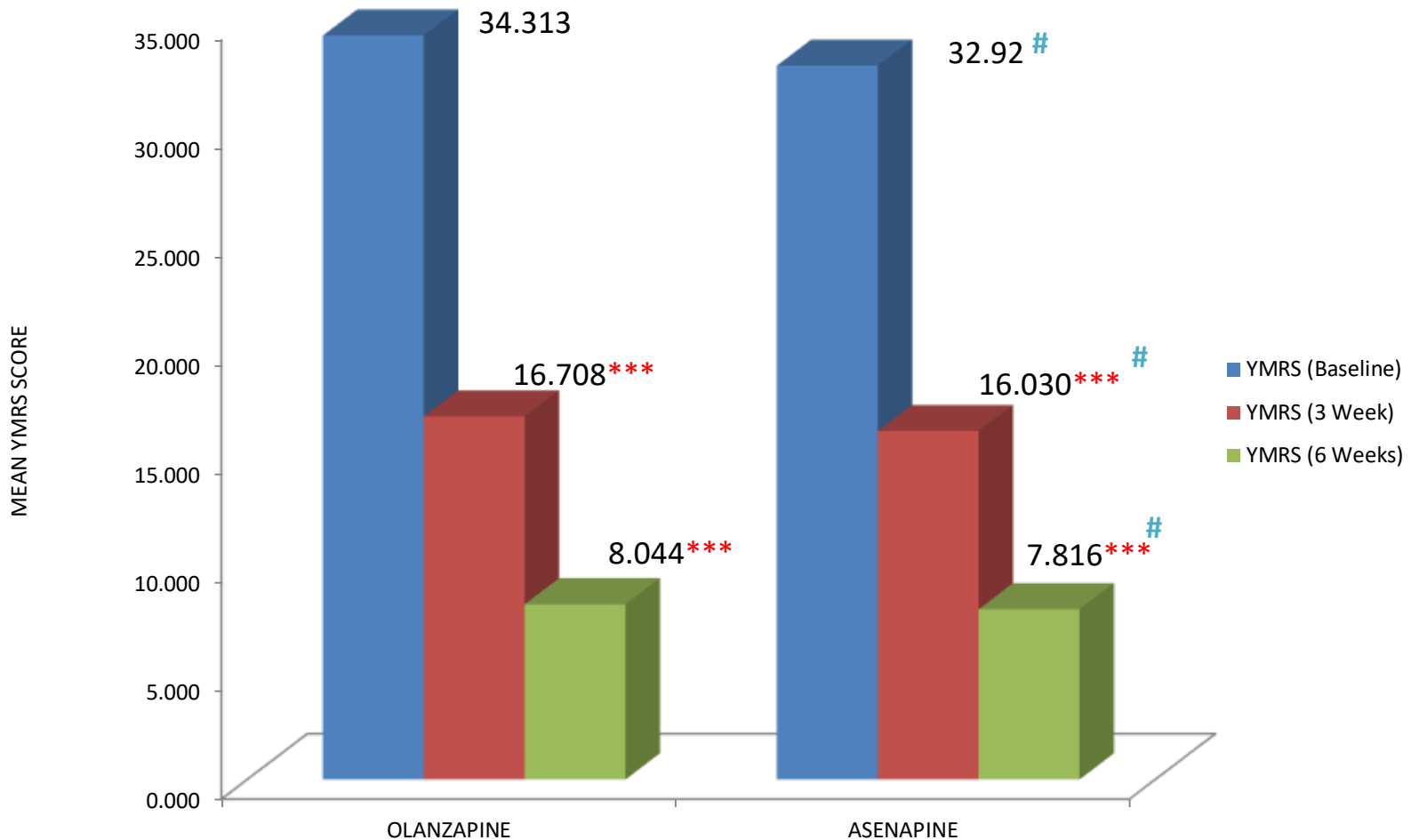
Base line Characteristics

TABLE 3: MEAN DIFFERENCE (% CHANGE) FROM RESPECTIVE BASELINES OBSERVED WITH OLANZAPINE AND ASENAPINE ON YMRS SCORE AT WEEK 3 AND 6

Variable	Drugs		Statistical Inference	
	Olanzapine (Mean ± SEM) (% Change)	Asenapine (Mean ± SEM) (% Change)	t	p
At 3 Weeks	-17.60 ± 0.93 ^{NS} (51.30)	-16.89 ± 0.75 ^{NS} (51.31)	-0.60	0.55 [#]
At 6 Weeks	-26.40 ± 0.65 ^{***} (76.94)	-24.64 ± 0.69 ^{***} (74.86)	-1.86	0.07 [#]

*The data is shown in Mean ± SEM; YMRS: Young Mania Rating Scale
 Paired 't' test in comparison to respective baselines * p<0.05; ** p<0.01; *** p<0.001
 Comparison between the groups at Baseline, 3 weeks and 6 weeks with Unpaired Student 't' test
 † p<0.05; †† p<0.01; ††† p<0.001; #NS = Non Significant*

Fig. 1 EFFECT OF OLANZAPINE Vs ASENAPINE ON YMRS SCORE IN PATIENTS OF ACUTE MANIA



*The data is shown in Mean ± SEM; YMRS: Young Mania Rating Scale
 Paired 't' test in comparison to respective baselines * p<0.05; ** p<0.01; *** p<0.001; NS = Non Significant
 Comparison between the groups at Baseline, 3 weeks and 6 weeks with Unpaired Student 't' test*

† p<0.05; †† p<0.01; ††† p<0.001; # = Non Significant

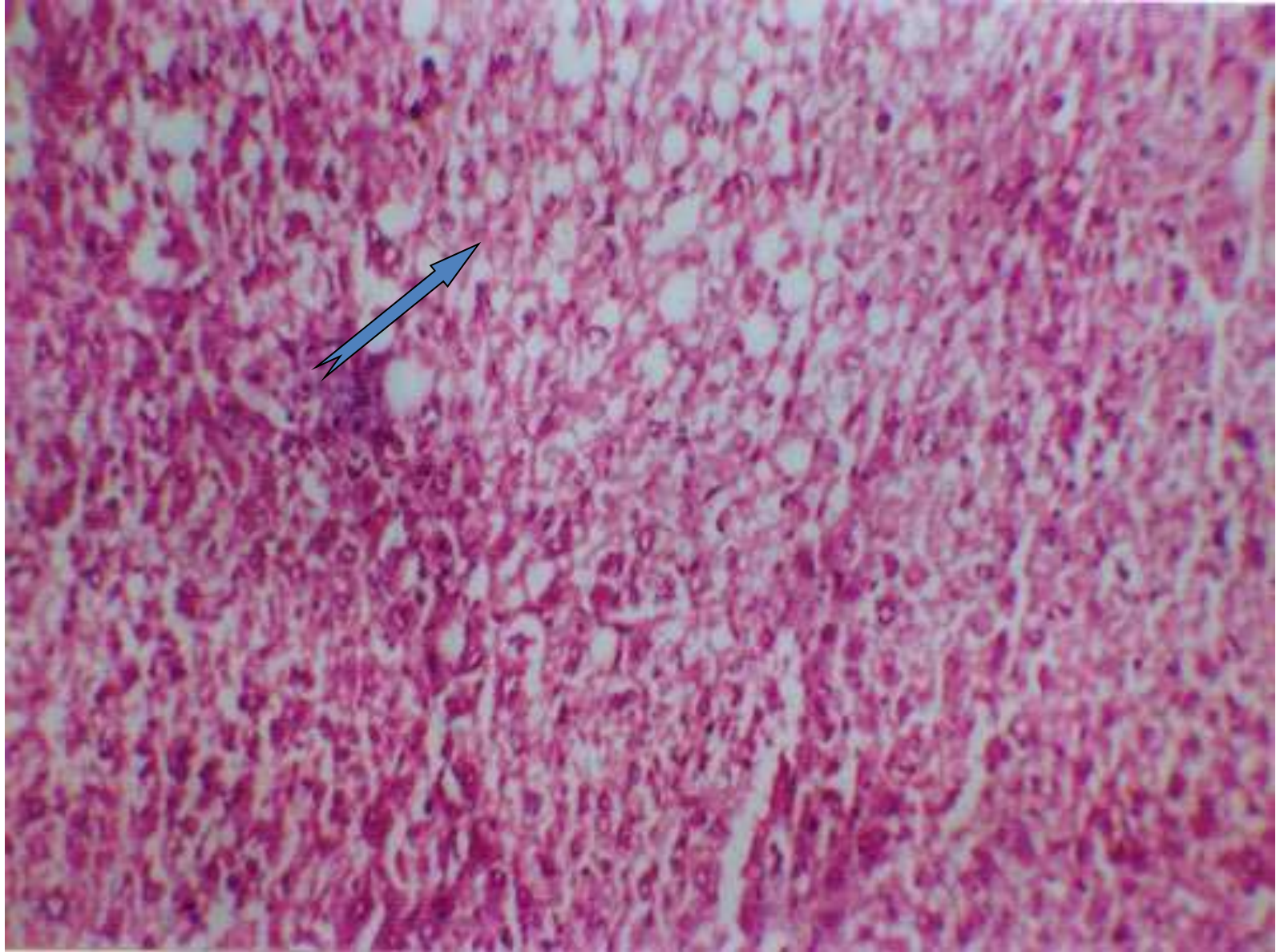


Figure 3 . Section of the liver tissue of rats treated with VNE (100 mg/kg. wt) and antitubercular drug challenge showing macrovesicular fatty change (H& E, 100 X)

Discussion

- **First answer question posed in introduction**
- **Compare studies in agreement**
- **Discuss weaknesses and discrepancies**
- **Lay down Possible reason in discrepancies**
- **Lay down Possible Hypothesis / Explanation of the findings**
- **Discuss Unexpected Findings also**
- **Explain what is new without exaggerating**
- **Discuss perspectives, implications, Impact on available research and clinical practice**
- **Limitations of study**

Discussion

Avoid:

Repetition of results

Too verbose, theoretical texts that are irrelevant to the research problem*

Inadequate discussions on the significant results

Failure to justify negative results

Conclusion

- **Be specific**
- **No hypothesis**
- **Finally conclude major results findings of study as per research question**

Efficacy and Safety of Asenapine Versus Olanzapine in Combination With Divalproex for Acute Mania: A Randomized Controlled Trial

OBJECTIVE : To compare the efficacy and safety of asenapine and olanzapine when used in combination with divalproex in patients with acute mania.

CONCLUSION: This study found that asenapine was an effective and well-tolerated atypical antipsychotic alternative to olanzapine in combination with divalproex for the short-term management of acute mania.

Referencing Styles

Some important referencing style in the medical sciences are:

- ***American Psychological Association (APA)***
(Author year Title Journal and vol and page)
- ***Chicago-style*** ("author-date" style)
- ***Harvard Style*** (alphabetical Referencing)
- ***Vancouver Style*** (numbered referencing style)



References Vs Bibliography



Reference Elements

- Authors (use et al. after 6 authors, if there are more than six authors, complete names should not be written. “et al” must be in italics)
- Article title (should be exact as existing)
- Journal name (should be in standard PubMed abbreviations, full journal name should not be written)
- Year
- Volume
- Page numbers (445-447 to be written as 445-47)

Singh JK, Bawa M, Kanojia RP, Ghai B, Menon P, Rao KL.
Idiopathic simultaneous intussusceptions in a neonate.
Pediatr Surg Int 2009;25:445-7.

Punctuation Marks

Coma followed by space after each author do not write *and* before the last author

Full stop after the last author followed by space and then the article title

Singh JK, Bawa M, Kanojia RP, Ghai B, Menon P, Rao KL.

Idiopathic simultaneous intussusceptions in a neonate.

Full stop followed by space

Pediatr Surg Int 2009;25:445-7.

Full stop at the end of the ref.

Single space between the journal abbreviation and the year, place no other punctuation marks

Hyphen to separate the page no.

Semicolon ; after the year without any space

Colon : after volume no. without any space

Reference checking facility on the www.journalonweb.com website

- The manuscript submission web site offers the authors a method where they can check the correctness of the references they have used
- The following slides will demonstrate how to use it

Citing References in the text

- References should be numbered using Arabic numerals in box parentheses e.g. [1] in the order of appearance in the text as a superscript.

diameter of 6 to 7 mm and the renal artery measures 2.8 mm.^[11] WT surgery is a safe and partially standardized procedure. However, major bleeding and vascular injuries can occur. The frequency of vascular injuries has been reported as 1.5% in the NWTs-3 and 4.^[12, 13] Severe hemorrhage occurs at a higher rate. Further, there exists a hidden surgical mortality.^[14]

Book Reference

Authors of the chapter



Title of the chapter



- **Miyano T, Kobayashi H, Chen SC. Long term results of biliary atresia. In: Gupta DK, editor. Text Book of Neonatal Surgery, 1st ed. New Delhi: Modern Publishers; 2000. p. 288-91.**

Name of the book



City of publication



Name of publisher



Edition no



Year and page no.



Chief Editor of the book



The punctuation marks are to followed as seen in this example

- **Journal article on the Internet**

- **Abood S. Quality improvement initiative in nursing homes: the ANA acts in an advisory role. Am J Nurs [Internet]. 2002 Jun [cited 2002 Aug 12];102(6):[about 1 p.]. Available from:
<http://www.nursingworld.org/AJN/2002/june/Wawat ch.htm>Article**

- Digray NC, Mengi Y, Goswamy HL. Hydrocephalus in children. Analysis of 50 cases. JK Practitioner 1998 (in press).
- Goswamy HL, Mengi Y, Digray NC. Organisation of Trauma Care. Presented at the meeting of North Chapter of ASI at Jammu, J&K–India, Oct 24–25, 1998.

Jamison KR. Suicide and bipolar disorder. J Clin Psychiatry 2000;61 Suppl 9:47-51

Angst J, Sellaro R. Historical perspectives and natural history of bipolar disorder. Biol Psychiatry 2000;48(6):445-57

Vega KJ, Pina I, Krevsky B. Heart transplantation is associated with an increased risk for pancreatobiliary disease. Ann Intern Med 1996;124: 980-3

- **McIntyre RS, Cohen M, Zhao J, Alphs L, Macek TA, Panagides J.** A 3-week, randomized, placebo-controlled trial of asenapine in the treatment of acute mania in bipolar mania and mixed states. *Bipolar Disord* 2009;11(7):673-86.
- **Parkin DM, Clayton D, Black RJ, Masuyer E, Friedl HP, Ivanov E, *et al.*** Childhood leukaemia in Europe after Chernobyl: 5 year follow-up. *Br J Cancer* 1996;73:1006-12
- **Phillips SJ, Whisnant JP.** Hypertension and stroke. In: Laragh JH, Brenner BM, editors. *Hypertension: pathophysiology, diagnosis, and management*. 2nd ed. Vol-2, New York: Raven Press; 1995. pp. 465-78
- **Schimdt D, Lynch, J.** Evaluation of the reproducibility of parallel artificial membrane permeation assays (PAMPA). Millipore Corporation; USA [Serial online] 2002 [cited in 2002]. Available from: <http://www.millipore.com/techpublications/tech1/ANI728EN00>

- **Digray NC, Mengi Y, Goswamy HL.** Hydrocephalus in children. Analysis of 50 cases. JK Practitioner 1998 (in press).
- **Goswamy HL, Mengi Y, Digray NC.** Organisation of Trauma Care. Presented at the meeting of North Chapter of ASI at Jammu, J&K–India, Oct 24–25, 1998.

Mental Health is a state of harmony between the individual and the surrounding world, a state of harmony between oneself and others, a coexistence between the realities of self and that of other people and that of the environment (**Sartorius, 1983**).

Acute mania is a medical emergency and needs an early and appropriate management which should provide effective control and prevention of activities that have potential for adverse consequences (**Bauer & Pfennig, 2005**).

Divalproex efficacy in reducing symptoms of mania and psychosis is comparable to olanzapine (**Zajacka *et al*, 2002**).

Irritants to evaluator

- **Plagiarism**
- **Grammatical Typographical mistakes**
- **Very Old references**
- **Structure of Submission not followed**
- **Reference not written in uniform style**
- **Table and Figs- not cited and no legends or they Lack description**
- **Wrong citation**
- **Results repeated in discussion**
- **Conclusion- not drawn in accordance to results**

How to Improve



- Good writing is rewriting
- Self review after a gap of few days
- Peer Review
- **Your supervisor/professor is not here to teach you basic grammar and spelling**
- **Restrict to word count as per the type of article**

- Use grammar check software
<http://www.grammarcheckforsentence.com>

- Plagiarism Checker software- <https://www.quetext.com/>

- **Reference checking facility on the www.journalonweb.com website**

Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publications

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- ✓ [Update on FDAAA from ClinicalTrials.gov](#) (06/08)
- ✓ [All Announcements, Updates & Editorials](#)

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- ✓ Will the ICMJE consider clinical trial results posted at ClinicalTrials.gov in compliance with the Food and Drug Administration Act of 2007 to be prior publication? [FULL ANSWER](#)
- ✓ How do I obtain a print copy of the

Prepare Manuscript as per

STROBE Guidelines

(Strengthening the reporting of observational studies in epidemiology)
Observational studies including cohort, case-control, and cross-sectional studies (25 Point Check list)

<https://www.strobe-statement.org/index.php?id=available-checklists>

CONSORT Guidelines (25 Point check list) Consolidated Standards of Reporting Trials

Randomized controlled trials

<http://www.consort-statement.org/>

CARE Guidelines

Case Report

<https://www.care-statement.org/checklist>



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You can check and verify accuracy and style of references.

- The style as well as bibliographic elements should be 100% accurate to get the references verified from the system. A single spelling error or addition to verifying the reference.
- Only the references from journals indexed in PubMed would be checked.
- Enter each reference in new line, without a serial number.
- Maximum 15 reference at time.

Example:

Sheahan P, O'leary G, Lee G, Fitzgibbon J. Cystic cervical metastases: Incidence and diagnosis using fine needle aspiration biopsy.

[Download](#) a PowerPoint presentation on common reference styles and using the reference checker [Courtesy Dr. Ravi Kanojia]

Write or paste the ref
in this box
then click the tab below



Check References

Clear

Unethical Publication practices

Gift Authorship

Pressured Authorship

Ghost Authorship

Duplicate Submission

Salami Publication

Plagiarism

Publications adding no new information

Scientific Fraud

Fabrication (altering truthful information)

Falsification (Inventing information where none previously existed)



Publish and Flourish

