



# ICMR ADVANCED CENTRE FOR EVIDENCE BASED CHILD HEALTH

### **WORKSHOP**

### "PROTOCOL DEVELOPMENT AND REVIEW COMPLETION"

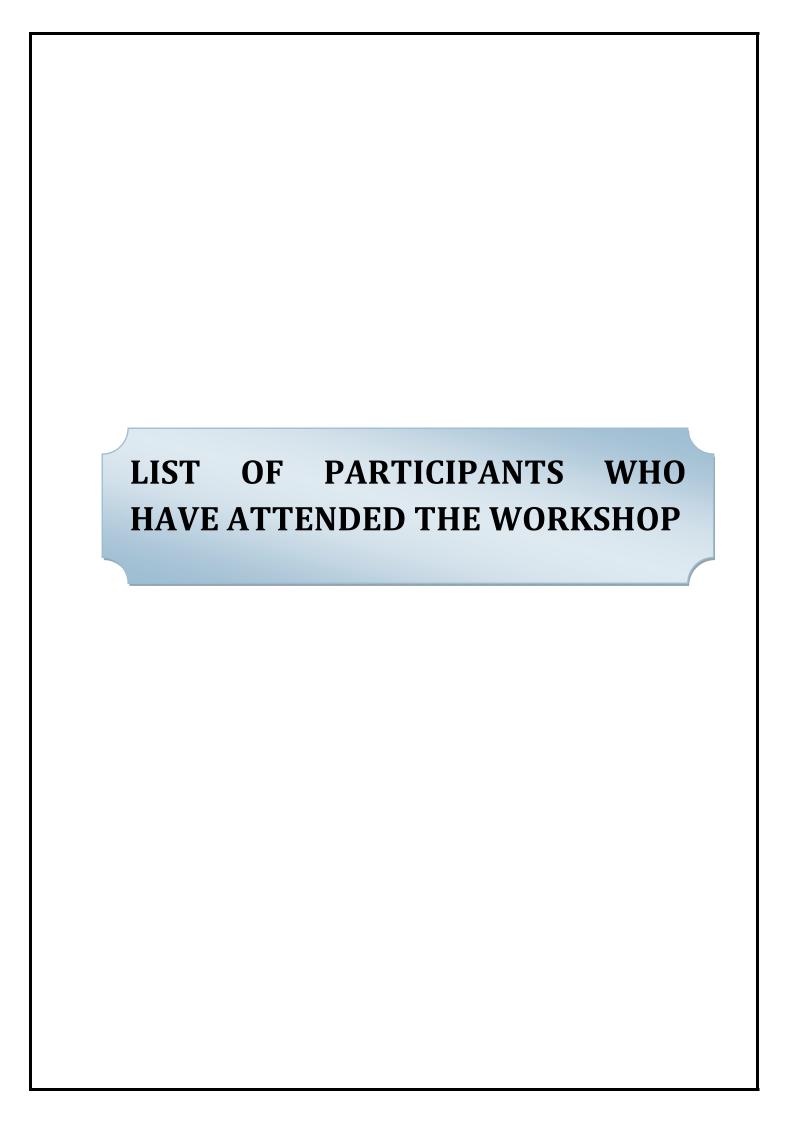
**USING STATA FOR META-ANALYSIS** 

Nov 5 - 7, 2014

VENUE: SCHOOL OF PUBLIC HEALTH

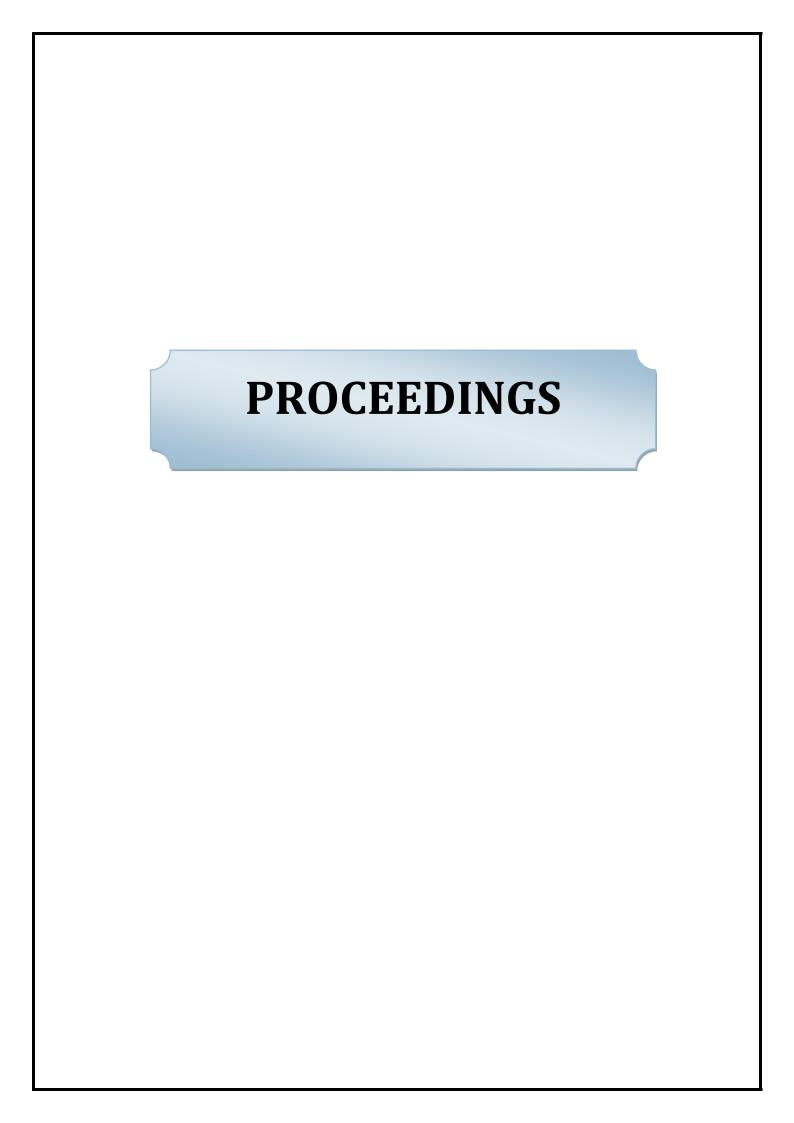
# LIST OF TUTORS

- 1. Dr. Meenu Singh, Professor, Department of Pediatrics, PGIMER, Chandigarh
- 2. Dr. PVM Lakshmi, School of Public Health, PGIMER, Chandigarh
- 3. Dr. Bhavneet Bharti, Department of Pediatrics, PGIMER, Chandigarh
- 4. Dr. Venkataseshan, Department of Pediatrics, PGIMER, Chandigarh
  Invited Speakers
- 5. Ms. Melissa Lewis, Department of Statistics, Manipal University
- 6. Mr. Ravishankar, Department of Statistics, Manipal University
- 7. Mr. Kalesh M K, Department of Statistics, Manipal University



#### **Participants**

- 1. Dr. Amit Agarwal
- 2. Dr. Kiran Kumar
- 3. Dr. Nishant Jaiswal
- 4. Dr. Richa Gupta
- 5. Dr. Shailender Singh Chauhan
- 6. Mr. Anil Chauhan
- 7. Dr. Sunil Dhatwalia
- 8. Dr. Sumita Pattanaik
- 9. Ms. Swati Sagwal
- 10. Dr. Jasleen Kaur
- 11. Dr. Sukhman Singh
- 12. Dr. Harish Negi
- 13. Dr. Madhurima Bansal
- 14. Mr. Avaneesh Kumar
- 15. Ms. Navjit Kaur
- 16. Dr. Jasmine Bhogal
- 17. Dr. Ashok Deep Singh
- 18. Dr. Suman
- 19. Dr. Amrita Gill
- 20. Dr. Sujata
- 21. Ms. Nandini Paul



## ICMR ADVANCED CENTRE FOR EVIDENCE BASED CHILD HEALTH PGIMER DEPARTMENT OF PEDIATRICS PROTOCOL DEVELOPMENT AND SYSTEMATIC REVIEW COMPLETION WORKSHOP: USING STATA FOR META-ANALYSIS

VENUE: SCHOOL OF PUBLIC HEALTH
DATE: Nov 5 - 7, 2014

DAY 1 (Nov 5, Wednesday)				
Time	Topic	Resource Person		
09.00 am - 09.30 am	Introduction			
09.30 am – 10.30 am	Introduction to STATA  Data entry, import & export data files, saving the output	Ms. Melissa Lewis		
10.30 am – 10.45 am	Break			
10.45 am – 11.45 am	Introduction to STATA  Recode and compute	Ms. Melissa Lewis		
11.45 am – 12.30 noon	Introduction to STATA Finding descriptive statistics	Mr. Ravishankar		
12.30 noon – 01.00 pm	Practical Confidence intervals	Mr. Ravishankar		
01.00 pm – 02.00 pm	Lunch Break			
02.00 pm – 2.45 pm	Parametric tests Independent samples t test, ANOVA, paired t test	Mr. Kalesh M K		
02.45 pm – 03.30 pm	Non-parametric tests  Mann Whitney U test, Kruskal Wallis test,  Wilcoxin sign rank test	Mr. Kalesh M K		
03.30 pm – 03.45 pm	Break			
03.45 pm – 04.45 pm	Correlation and Regression	Mr. Ravishankar		

04.45 - 05.00pm	Revision	
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	DAY 2 (Nov 6, Thursday)			
Time	Topic	Resource Person		
08.45 - 09.15 am	Recap			
09.15 – 10.00 am	Chi-square test and odds ratio	Ms. Melissa Lewis/ Dr. PVM Lakshmi		
10.00 - 10.45 am	Logistic Regression	Mr. Kalesh M K		
10.45 – 11.00 am	Break			
11.00 – 11.45 am	ROC curve	Mr. Kalesh M K		
11.45 – 1.00 pm	Diagrams, Graphs and Tables	Mr. Ravishankar		
01.00 – 02.00 pm	Lunch break			
02.00 – 02.45 pm	Introduction to Meta-analysis	Mr. Ravishankar		
02.45 – 03.30 pm	Meta-analysis of dichotomous outcomes	Mr. Kalesh M K		
03.30 – 03.45 pm	Break			
03.45 - 04.30 pm	Meta-analysis of dichotomous outcomes (continued)	Ms. Melissa Lewis		
04.30 - 05.00 pm	Revision			

DAY 3 (Nov 7, Friday)				
Time	Торіс	Resource Person		
08.45 - 09.15 am	Recap			
09.15 – 09.45 am	Heterogeneity and Publication bias Funnel plot, Egger plot, L'abbe plot	Mr. Ravishankar		
09.45 – 10.30 am	Meta-analysis of Continuous outcomes	Mr. Kalesh M K		
10.30 – 10.45 am	Break			
10.45 – 11.15 am	Meta-analysis when only effect measures are given	Mr. Ravishankar		
11.15 – 11.45 am	Meta-analysis of prevalence studies	Ms. Melissa Lewis		
11.45 – 12.30 pm	Subgroup analysis	Ms. Melissa Lewis		
12.30 – 01.15 pm	Meta-regression	Mr. Ravishankar		
01.15 - 02.30 pm	Lunch break			
02.30 - 04.00 pm	Revision			
04.00 - 04.15 pm	Break			
04.15 - 05.00	Valedictory and feedback			

The faculty was come from Manipal University for this workshop. On the first day i.e. 5<sup>th</sup> November Dr. Meenu Singh took introductory session with participants then Ms. Melissa Lewis took the session on Introduction to STATA. She took a lecturer regarding Data entry, import & export data files, saving the output in STATA software. After this session she discussed about recoding and computing. After this basic session Mr. Ravishankar taught about the descriptive statistics part of STATA. He also took the practical session on how to calculate confidence Interval.

Mr. Kalesh M K took the session on parametric tests (Independent samples t test, ANOVA, paired t test) and nonparametric tests (Non-parametric tests Mann Whitney U test, Kruskal Wallis test, Wilcoxin sign rank test) with hands on practice.

In the last session Mr. Ravishankar discussed about how to do Correlation and Regression in STATA.



Mr. Ravishankar taking a lecture on descriptive statistics in STATA.



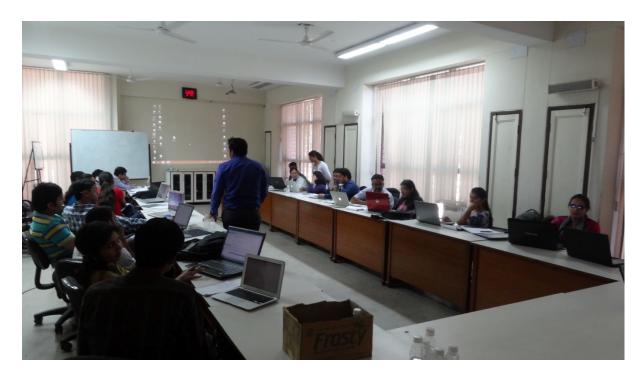
Mr. Kalesh M K during his session on parametric tests

On the second day i.e. 6<sup>th</sup> November Ms. Melissa Lewis/ Dr. PVM Lakshmi took session on Chi-square test and odds ratio in STATA. Mr. Kalesh M K demonstrated practically on Logistic Regression and ROC curve in STATA.

After this Mr. Ravishankar discussed on how to do Diagrams, Graphs and Tables by using STATA. He also introduces Meta-analysis and meta-analysis of dichotomous outcomes. Mr. Kalesh M K and Ms. Melissa Lewis also show how to use STATA for Meta-analysis of dichotomous and various outcomes.



Dr. PVM Lakshmi delivering a lecture on Chi-square test



Interactive session between faculty and participants.



Mr Ravishankar during his lecture on How to do Meta-Analysis in STATA?

On the last day of the workshop i.e. 7<sup>th</sup> November Mr. Ravishankar demonstrated on Heterogeneity and Publication bias like Funnel plot, Egger plot, L'abbe plot. Mr. Kalesh M K discussed about Meta-analysis of Continuous outcomes and Mr. Ravishankar discussed about the Meta-analysis when only effect measures are given. Ms. Melissa Lewis showed how to do Meta-analysis of prevalence studies and Subgroup analysis by using STATA. In the last session Mr. Ravishankar demonstrated practically on Meta-regression.

Finally we facilitated the faculty in valedictory ceremony.





Mr. Ravishankar during his lecture on Meta Regression in STATA.



Dr. Bhavneet Bharti facilitating faculty during the valedictory ceremony.



Dr. Venkatasheshan facilitate faculty during the valedictory.



The Group Photograph