

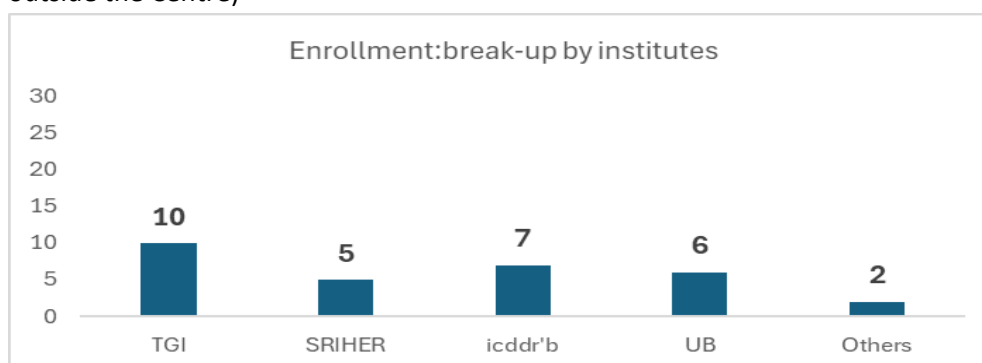
Course training report

Training details

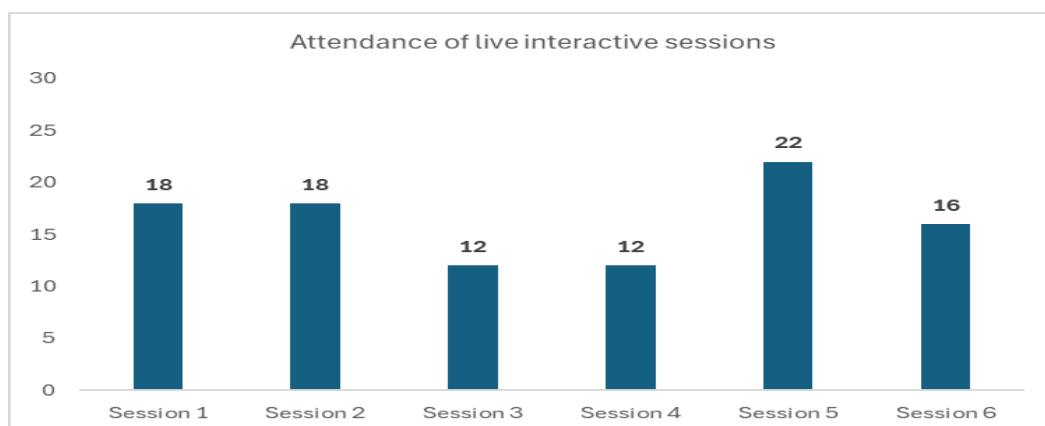
1. **Name of Course:** Exploratory data analysis
2. **Theme of the course/training:** Research methods
3. **Organizing institute:** The George Institute for Global Health
4. **Course faculty**
Course lead: Dr Rashmi Pant, Senior research fellow, TGI India
5. **Intended learning objectives:**
 - Identify distribution of outcome variables
 - Perform outlier and influential observation analysis.
 - Identify potential violations of the assumptions before the application of final statistical testing and modelling procedures.
 - Identify appropriate transformations for variables where needed.
 - Identify a priority, relationship patterns between multiple dependent and independent variables through graphs
6. **Course delivery dates:** April 2024- July 2024
7. **Course details:** 6 live interactive sessions (conducted via zoom) + 2 pre-recorded lectures + reading material
8. **Total contact hours:** 10 hours (9 hours live interactive sessions + 1-hour pre-recorded lecture)
9. **Assignment details:** A multiple-choice quiz assignment comprising of 25 questions conducted using Moodle (2 timed attempts (20 min each), minimum passing grade-60%)
10. **Total enrolled and completed:** Enrolled-30 participants, completed-20 participants

Participant details

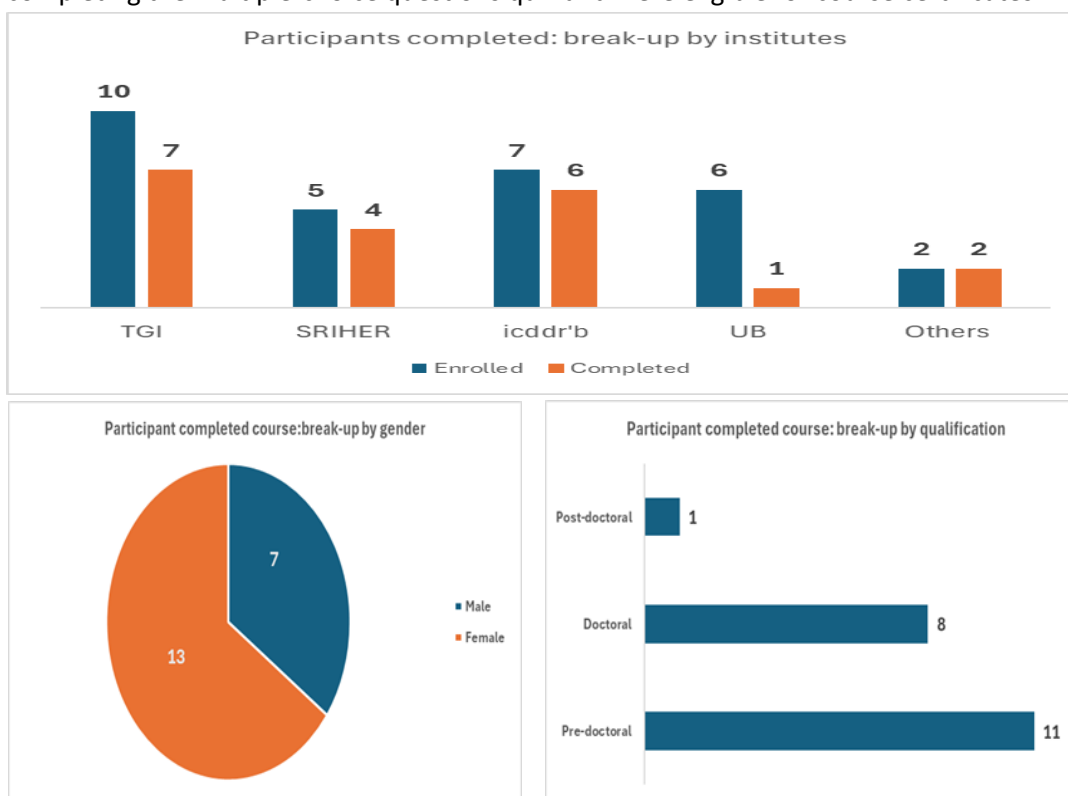
1. An expression of interest was sought for the course from all country partners for enrollment. The total number of enrolled participants in the course was **30** (including 6 people from outside the Centre)



2. Attendance of live interactive sessions(n=30)



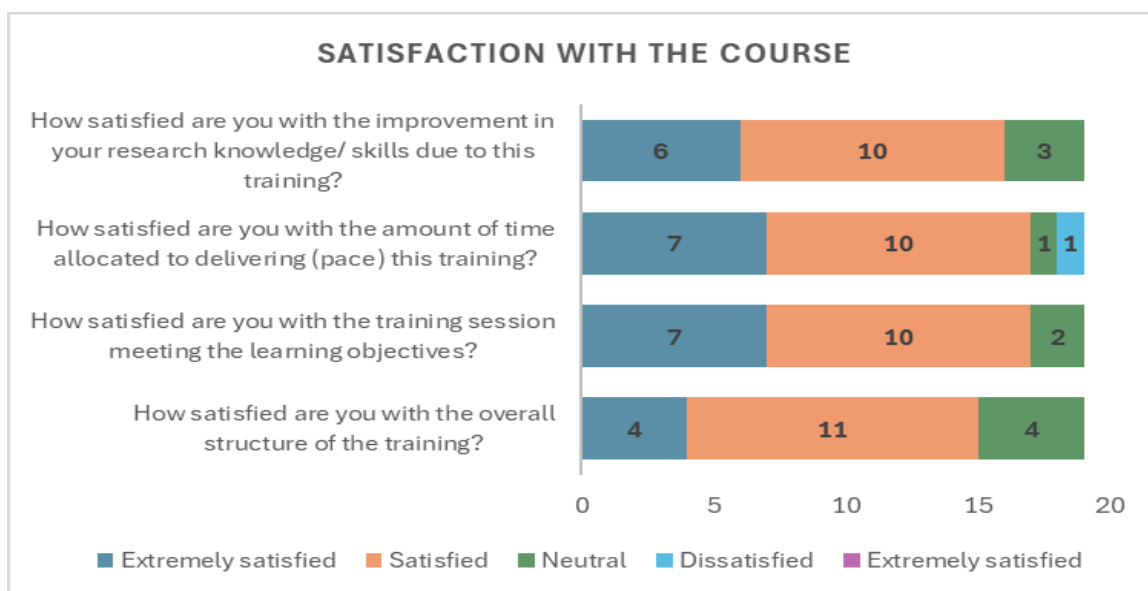
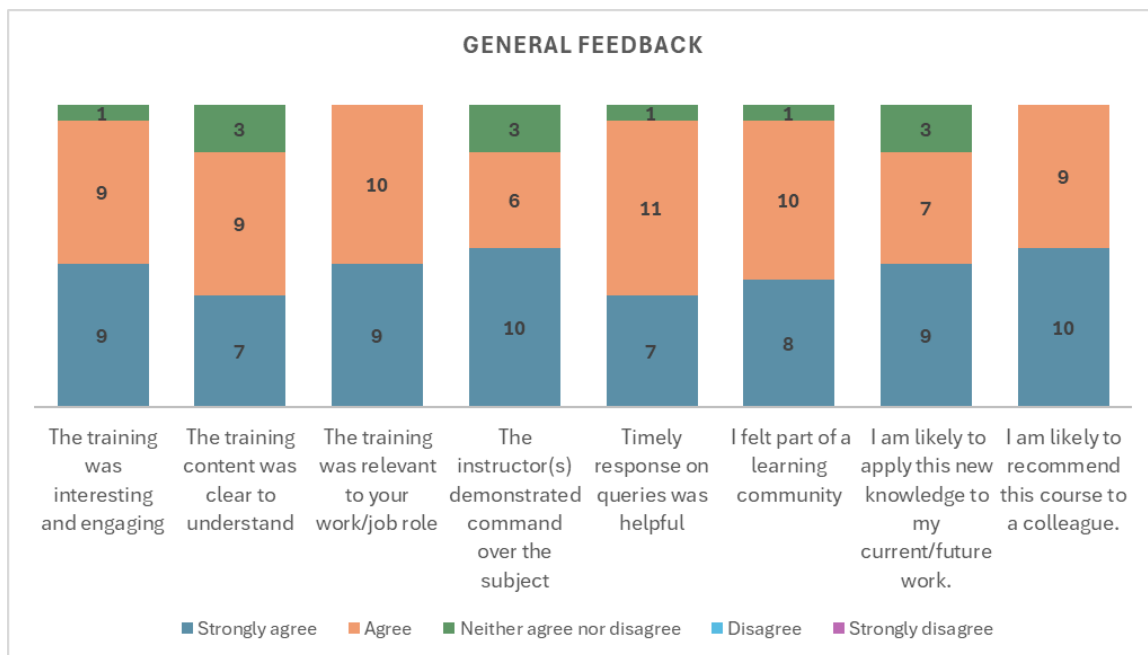
3. 20 participants (67%) successfully completed the course by attending 3/6 live sessions along with completing the multiple-choice questions quiz and were eligible for course certificates



Participant feedback

Feedback was collected anonymously from participants using feedback form via the Moodle platform. **95%** participants (19/20) who completed the course provided the feedback

93.4% participants responded agreed/strongly agreed to the general feedback questions, while response was recorded satisfied/extremely satisfied by **86%** participants for satisfaction related questions.



Qualitative feedback

Valuable part about the training

- All the examples and reading materials that were provided post every session
- Correlating the sessions with actual work
- The session covered a breadth of analysis methods and provided a strong foundation for analysis
- Using our own research questions and data to understand and help answering how we can analyse the data
- New statistical techniques and tests, practical exercises and real-world examples helped me understand how to effectively analyse and interpret data

- Feedback on our statistical methods and learning about basic to advance of exploratory data analysis was of much value

Application of new knowledge and skills gained

- I will apply the basic statistical knowledge gained in epidemiology and public health
- Enhanced use of graphs and visualization in our research papers
- Research projects/PhD thesis
- Data analysis and paper writing/grant writing
- To better understand data patterns, identify trends, and detect anomalies in my projects
- Using techniques like visualizations, summary statistics, and hypothesis testing to explore the data and identify key takeaways
- The knowledge gained will be helpful throughout my public health research journey

Suggestions for improvement:

- One more session on creating a statistical analysis plan
- Face to Face workshop
- More time dedicated to concept of regression
- More reading material to understand multicollinearity/ types of regression model/ residual is appreciated,
- More emphasis on statistical tests relevant to EDA (e.g., t-tests, chi-square tests) could help learners understand how to validate their findings rigorously
- Not scheduling classes on Tuesdays
- More real-world examples and hands-on exercise

Few participants had internet connectivity during the live interactive sessions.