



# National Center of Excellence and Advance Research on Diets Lady Irwin College, University of Delhi

## Report Capsular Course on Nutrition Epidemiology, Module -1 Survey Methods

### Background

The world nutrition community has been raising the voices for the importance of trained nutrition professionals to prepare appropriate nutrition programmes specific to population needs and deliver them effectively to achieve desired maternal and child health outcomes. Enhanced understanding of nutrition epidemiology among program managers, researchers and health care professionals is of utmost importance in India as the country is home of one-third of the world's children who are wasted.

A study assessing the nutrition teaching and training initiatives in India recorded that while about 190 institutions offering nutrition education at various academic levels, only in less than three percent of institutions, the public health nutrition (PHN) courses are offered. Further, the review suggests that out of 112 institutes that offer postgraduate course in nutrition, PHN appeared as focus in only one college while the other two cover PHN through diploma or modular courses (Khandelwal, 2014).

National Centre of Excellence and Advanced Research on Diets (NCEARD), has been established at Department of Food and Nutrition, Lady Irwin College, New Delhi to support the Maternal Health Division, Ministry of Health and Family Welfare, Government of India in convening policy discourse, developing and testing maternal malnutrition guidelines, enhancing knowledge of nutrition epidemiology under PHN training for evidence based nutrition programming in India. UNICEF India has generously provided the financial support to the centre for initial phase of its establishment.

NCEARD, Lady Irwin College, University of Delhi, signed a Memorandum of Understanding (MoU) with the International Institute for Population Sciences (IIPS), Mumbai on 25<sup>th</sup> October, 2018 to conduct capsular course on nutrition epidemiology at the centre, with technical and financial assistance from UNICEF India.

**OCTOBER 26 – 29, 2018**

### CAPSULAR COURSE ON NUTRITION EPIDEMIOLOGY

**National Centre of Excellence and  
Advanced Research on Diets, Lady Irwin College**

**ABOUT THE COURSE**

The field of nutritional epidemiology aims at understanding relationships between dietary intake, nutritional status and health outcomes. The course will be covered through 6 modules.

**MODULE 1: SURVEY METHODS**

Organized by: National Centre of Excellence and Advanced Research on Diets, Lady Irwin College (Delhi) in collaboration with International Institute for Population Sciences (Mumbai) and UNICEF India

**COURSE CONTENT FOR MODULE 1: SURVEY METHODS:**

1. Survey research
2. Nutritional large scale surveys
3. Sampling weights
4. Ethical issues
5. Challenges and issues with handling large data-sets
6. Sampling frame and sampling designs
7. Sample size
8. Data analysis packages (SPSS/STATA)
9. Multi-stage sampling

**FACULTY FROM IIPS, UNICEF AND OTHER GUEST  
SPEAKERS WILL BE INVITED.**

This course has been proposed given the fact that principles of nutritional epidemiology are not comprehensively covered in any existing course curriculum in India, which co-exists with vast observational research being conducted in the country. The certificate course, covered through six modules on nutrition epidemiology, aims at enhancing the understanding of relationships between dietary intake, nutritional status and health outcomes among nutrition programmers, health care professionals and researchers.

The first module of the course – Module-1: Survey Methods – was conducted at Lady Irwin College during 26-29 October 2018. This module aimed at enhancing the knowledge on the history of nutrition programmes in India and emerging issues, the survey research techniques and various indicators of nutritional assessment, increasing application of research methodology in different research and programmatic outcomes; understand sources, estimation and implications of measurement errors in nutritional epidemiological research; understand, apply and critique the use of sampling and study designs to be able to get statistically meaningful data; and collaborate efficiently with epidemiologists, clinicians, nutritionists and statisticians on designing, planning, conducting and interpreting epidemiological research focused on the relationship of diet and disease.

### **The Participants:**

A total of 46 participants - 31 mid-level managers working with various organizations, 11 MSc students of Lady Irwin College and six staff of NCEARD, submitted their application for the course. Overall, 41 participants completed the course and awarded the

“certificate of attendance”; out of these 26 participants were from outside of Lady Irwin College. The outside participants included the researchers and program managers from the organizations such as WHO, UNICEF, Piramal Foundation, NIN, AIIMS, etc.

### **The Facilitators and Guest Speakers:**

Three senior professors/professors from IIPS were the key facilitators to deliver the course contents to participants. These were Prof Ladu Singh, Dr Abhishek Singh and Dr Kaushalendra Kumar. In addition, four specialised sessions were organised by guest speakers during the course. The topics included – overview of nutrition programs and survey with emerging issues, and the overview of recently conducted Comprehensive National Nutrition Survey (CNNS) with emphasis on the anthropometric measurements and challenges and lessons learned during implementation. Dr Sheila Vir (PHNDC), Dr Purnima Menon (IFPRI), Mr Robert Johnston and Dr Praween Agrawal (UNICEF India).

### **The Course:**

The training course of 32 hours, on “Survey Methods” was organized during 26-29 October 2018, at the Lady Irwin College. The day-wise agenda covered the course contents in the following manner –

**Day1:** First day of course started with the registration of participants, a welcome note and overview of course and details of module by professors of Lady Irwin College. The sessions on day-one included –

- An overview of nutrition programs in India – chronology and emerging issues
- Overview of nutrition surveys in India

- Introduction to survey research, sampling frame and basics of sampling design Determination of Sample size

**Day-2:** The second day of training started with a recap of day-1 sessions and answering the questions and clarifications. The following sessions of day-2 were-

- Practical exercise on determination of sample size using SPSS/STATA
- Introduction to multi-stage sampling design
- Examples of large scale surveys on nutrition
- Basic concepts of statistical methods with a demonstration exercise

**Day-3:** The day three sessions began with review of the sessions conducted on day-2 while addressing questions and clarifications of participants. The day-3 sessions covered –

- Introduction to sampling weights
- Ethical issues in large scale surveys
- Introduction to STATA for basic analysis with practical sessions using laptop

As homework, the participants were given a couple of articles to read and reflect upon in the morning session of day-4.

**Day-4:** The fourth day of training started with an overall recap of the sessions covered in past three days. The participants were asked to revert with their reflections on the suggested reading given to them on third day. The other sessions conducted on day-3 included –

- Collection of anthropometric data in the comprehensive national nutrition survey (CNNS)

- Methodology, scope, coverage and key domains covered in CNNS, and issues emerging from the preliminary analysis.

**Valedictory:** The valedictory session was conducted toward the end of 4-day training on survey methods. The Director of Lady Irwin College and Mr Robert Johnston from UNICEF India presided the valedictory session and shared their vision for need of such modules and future such endeavours. From the facilitators, Dr Abhishek Singh reflected with his experience of the entire 4-days (32 hours) training. In addition, some of the participants also shared their views on the training. Overall, the participants found the training very useful for their day-to-day operations.

### **Feedback from Participants**

At the end of sessions on each day, a feedback form was supplied to participants to provide feedback on the sessions conducted during the day. Participant feedback was solicited on three key aspects of session, which include – contents covered in the session, presentation/communication skills of facilitator, and interactions between facilitator and participants. In addition, the participants were also asked for their rating on quality of food and snacks served during training.

Overall, the participants rated most of the sessions of “high quality”. At the end of day-1, the overall score given by participants was 4.1 points on a five points scale, starting from “1=bad/not useful” to “5=excellent/extremely useful”. The qualitative feedback for day-1 indicated the need of sessions to be more

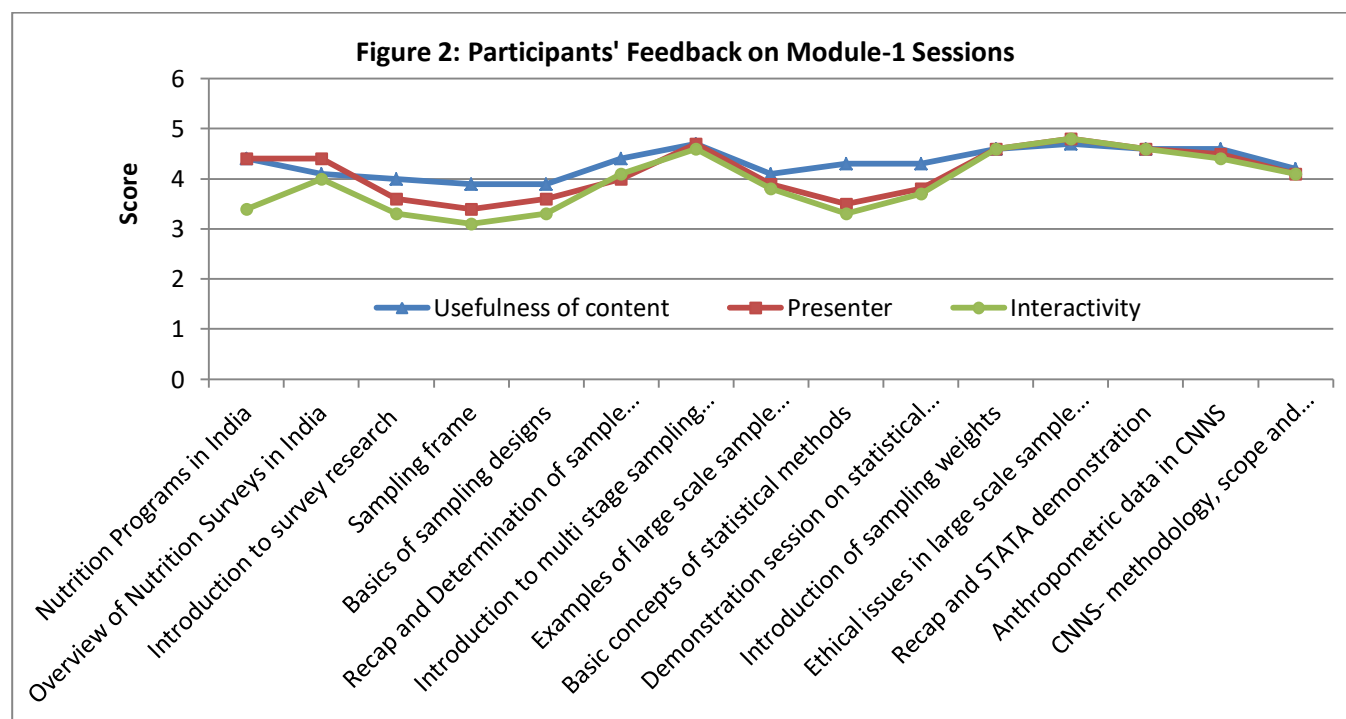
interactive and with examples, and the theory should be kept at basic concepts so the participants are able to follow. They also raised the point of sharing the session contents in advance as background material.

Learning from day-1, the day-2 sessions were redesigned to introduce greater interaction between facilitators and participants. The facilitators included the practical exercises in the sessions in their teaching. These efforts from facilitators received positive outcome in terms of the participants giving an average overall rating as 4.2 out of 5 for day-2 sessions.

Throughout the 4-days training the facilitators and course coordinator made efforts to learn

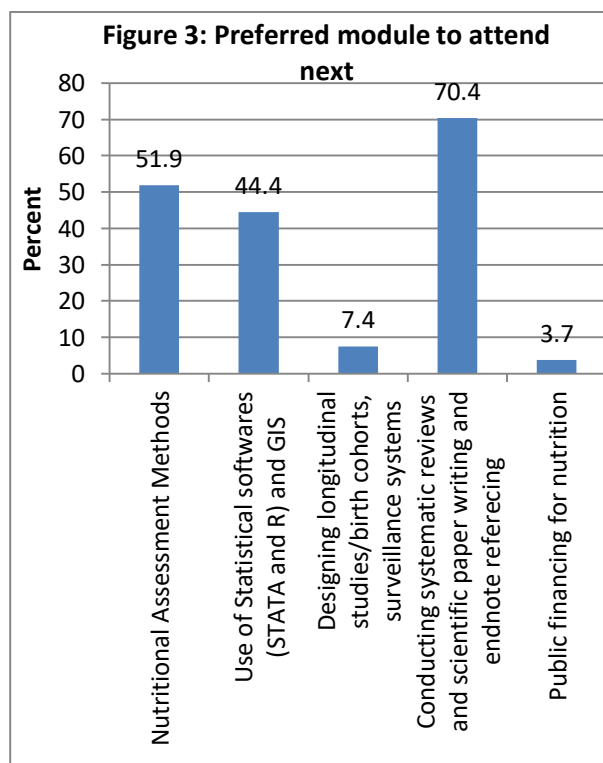
and improve upon to meet participants' expectations; some of which included uploading the course material on Google drive, giving homework, providing links to suggested reading, etc. These efforts showed up in positive outcome in terms of overall rating for day-3 and day-4 increasing to 4.4 and 4.5 out of 5 points, respectively.

A session-wise analysis of feedback from participants show that sessions on introduction to multi-stage sampling design, ethics in large scale surveys, sampling weights, introduction to STATA and practice were most appreciated; the ratings for these session were more than 4.5 out of 5 points (figure 2).



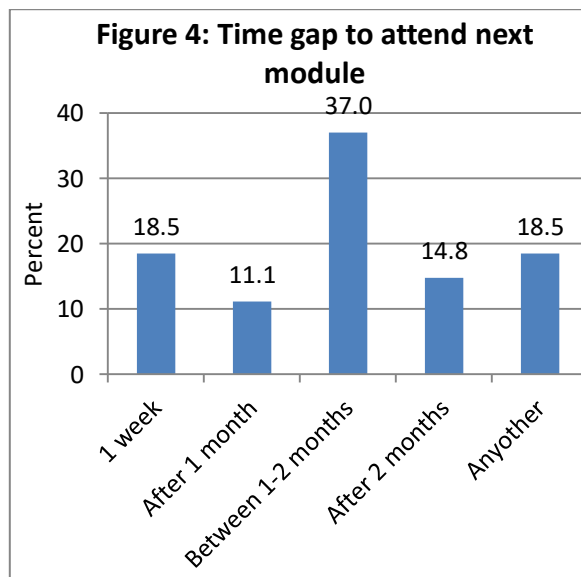
## Participants' views on next modules of Nutrition Epidemiology course

Towards the end of the 4-days training, participants were informed about the other five modules of the capsular course of nutrition epidemiology. They were asked about their preferences on which module the training to be organized next and subsequently. Figure 3 shows that 70 percent of participants preferred the next training on "systematic review and scientific paper writing with endnote referencing". The other preferred modules to organize next included – the nutrition assessment methods (52%) and use of statistical softwares and GIS use (44%).

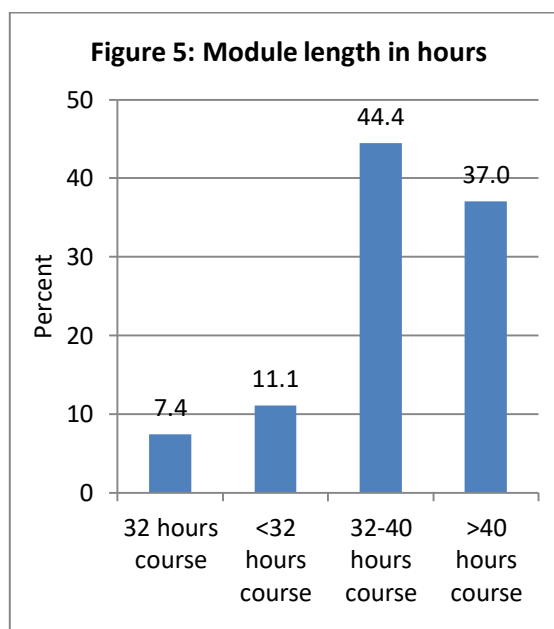


Another question posed to the participant was "when they would like the next module to organize"? More than half of the participants (52%) viewed the next training to be organized between 1-2 months or after 2

months of the current training (figure 4). Only less than one out of five participants wanted the training after one week of the current training (18.5%).

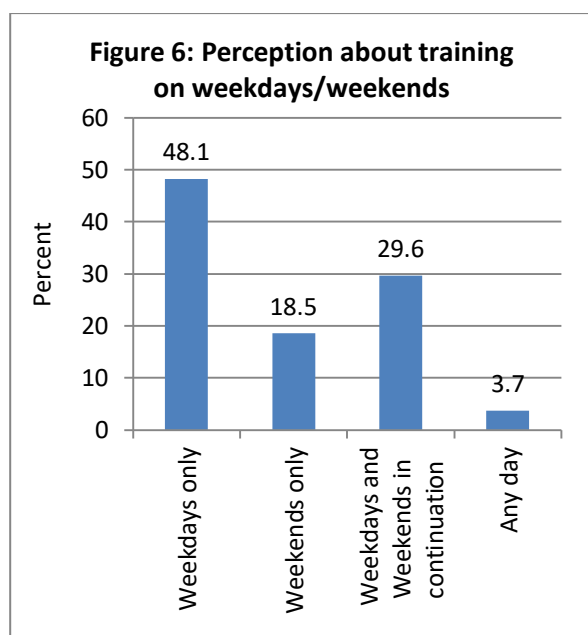


The majority of participants viewed the course length to be more than 32 hours (81.4%); another 7.4 percent viewed the length as 32 hours (Figure 5).





On the days on which the training to be organized, nearly half of the participants (48.1%) viewed it should be organized during weekdays only. Another 30 percent viewed the training should be held on a combination of weekdays and weekends (the current structure). Less than one out of five participants (18.5%) said the training should be organised over the weekends only (Figure 6).



### Key lessons learned

The key lessons learned from conducting the training on module -1 include the background materials and suggested readings should be made available prior to the training, so the

participants are better prepared for the module sessions. More specifically the following lessons are drawn from the training on module-1.

- The course flyer should also have facilitators' names with their institutional affiliation
- There should be enough time to prepare for the training, arranging for background material, dates of application and shortlisting of applicants, etc. it is envisaged that after finalizing the agenda and facilitators, at least 4-weeks' time is needed to have a sizeable number of participants with basic minimum requirements for the module training.
- All presentations and course/background materials to be collected from the identified facilitators and shared with participants at least 2-3 days prior to training.
- Facilitators to be made aware of the 60:40 ratio of theory and practice for each of the sessions, wherever possible.
- Some reenergising exercises to be planned, especially before the session in post lunch period.

