IFCC Task Force for Young Scientists Educational Symposium
ACBICON-2014, Jodhpur, India

"Research Design & Methodology—Identification of Need"

by Dr. Pradeep Kumar Dabla
Chair IFCC-TF YS

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Research in common parlance refers to a search for knowledge. Once can also define research as a systematic and systematic search for pertinent information on a specific topic. Thus, the purpose of research is to discover answers to questions through the application of scientific procedures.

The Task Force Young Scientists (IFCC-TF YS) in collaboration with Association of Clinical Biochemists in India (ACBI) conducted a 5th Symposium on 11th December 2014 for young colleagues from laboratory medicine.

The programme was well attended by more than one hundred participants from India & abroad including senior members from the IFCC, APFCB & ACBI. The event was hosted by organising committee ACBI Conference (ACBICON) 2014 & Dr. Praveen Sharma (Organising Secretary). It was organised at the All India Institute of Medical Sciences (AIIMS), Jodhpur, India.

This workshop covered the research process, an overview of qualitative and quantitative methods, data collection, recording and analysis and final output of a research proposal. It helped students to understand the basics of research process including the identification of a topic, preparation of a research proposal and final research report, assessment criteria for this and associated timelines.

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The concept of these activities is to encourage interactions & networking between young scientists along with education in the field of laboratory medicine & research. In India, with collaborative efforts of ACBI & IFCC, the IFCC-TFYS has organised educational workshops/symposium every year in the National Conference, meaning in 2010, 2011, 2011, 2013 & 2014.

Addressing the conclave, Dr. Graham Beastall (President-IFCC) praised the Task Force initiatives and stressed upon the need to share experiences and strong networking activities. Dr. Jayashree Bhattacharjee (President ACBI) gave a welcome addresses and summarised the ACBI initiatives for the young biochemists. Dr. Pradeep Kumar Dabla (Convener and Chair IFCC-TFYS) summarized the Task Force objectives, members & activities conducted. He assured the commitment of focused training and education to strengthen the future prospects of young laboritornians.

The first session was chaired by Dr. Maurizio Ferrari and Dr. Howard Morris. Dr. Graham Beastall initiated the session by sharing his academic experience in UK & worldwide as researcher & granting authority. He explained the increasing role of Health authorities in medicine. The future specialist in Lab Medicine will require a strong background in the basic medical sciences as well as highly developed clinical skills. It is needed to develop the robust Laboratory Medicine and clinical research programmes to improve health care and wellness of the population.

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Next, Dr. Pradeep Kumar Dabla (Chair IFCC-TFYS) gave a basic Introduction to Research Design, explaining what research is and its various steps in brief. Research process consists of series of actions or steps necessary to effectively carry out research and the desired sequencing of these steps. Research comprises of defining and redefining problems, formulating hypothesis or suggested solutions; collecting, organising and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis. Prof. Venkat Parameswaran (School of Medicine, Univ. of Tasmania) continued detailing Literature Review using the Internet Support & Theoretical Approaches. He said “One of the most difficult steps when considering research is to choose a right topic of interest”. This job of locating the background information through systematic literature review nowadays has been made easier through web-based “virtual library” facilities. Experimental approaches and analysis defines the information that is obtained.

Second session was chaired by Dr. Endang Hoyaranda & Dr. Jayashree Bhattacharjee. Dr. Archana Singh (Asst. Prof., Biochemistry, AIIMS Delhi) described various quantitative and qualitative methods in detail. Generally, health science research follows the empirical approach, i.e. based upon observation and experience and deals with information of a quantitative nature. In either approach, statistical reasoning using the laws of probability guides the inferential process. Based on these calculated probabilities, the hypothesis is accepted or rejected.

In the end, Dr. Graham Beastall guided how to draft a research proposal and fine details required. He said: “The way in which a research proposal is structured and worded will have a significant impact on its likely acceptance”. He stressed on allowing plenty of time to prepare the submission. Formulate your research proposal into a hypothesis or series of questions informing the ‘Aims, Objectives and Outcomes’ of your proposal to submit in time.

To summarize, the workshop has provided attendee’s sufficient understanding of the major paradigms of qualitative and quantitative research and to provide a basis for further examination using preferred method. This session has provided a vision to understand the research process including the identification of a topic, preparation of a research proposal and final research report and associated assessment criteria to prepare research proposal. Following the success of this symposium the IFCC Executive Board is considering a new project to support YS to become involved with clinical and scientific research.

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