Symposium

Reform of the Indian Medical Council Act, 1956: NITI Aayog, Government of India, August 7, 2016

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INTRODUCTION

On September 23, 2015, department-related Parliamentary Standing Committee on Health and Family Welfare took up the subject of Medical Council of India for examination. After detailed discussions, wide consultations with various stakeholders, and review of published articles and written submissions by experts, it submitted Report 92 to the Rajya Sabha on March 8, 2016. The report offers a critical assessment of medical education in India and also offers recommendations for reforming it. The Parliamentary Standing Committee exhorts the Central Government to bring about radical reform of medical education in India to preserve, protect, and promote the health of all Indians by leading the way for a radical reform that cleanses the present ills and elevates medical education to contemporary global pedagogy and practices while retaining focus on national relevance.

The Government of India, vide OM No. 16(3)/2015-H&FW dated March 28, 2016 (Annexe I) and in terms of the PMO I.D. No. 520/31/C/05/2015-ES.2 dated March 21, 2016, constituted a committee on the Indian Medical Council (IMC) Act 1956 under the chairmanship of the vice chairman, NITI Aayog. The committee was charged with examining all aspects of the IMC Act, 1956 and suggest reforms leading to improved outcomes in medical education.

The committee has submitted a preliminary report on the reform of the IMC Act, 1956 and has proposed a draft bill toward that end: The national medical commission bill, 2016, a bill to create a world-class medical education system that ensures adequate supply of high-quality medical professionals at both undergraduate and postgraduate levels; encourages medical professionals to incorporate the latest medical research in their work and to contribute to such research; provides for objective periodic assessments of medical institutions; facilitates the maintenance of a medical register for India; and enforces high ethical standards in all aspects of medical services and is flexible so as to adapt to the changing needs of a transforming nation.

Modern Approach to UG and PG Training

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INTRODUCTION

Medical Education aims at bringing a behavioural change in a medical student in terms of acquisition of medical knowledge, professional skills and development of appropriate and enlightened attitude. Traditional education focuses on what and how learners are taught and less on whether or not they can use their learning to solve problems, perform procedures, communicate effectively and make good clinical decisions. Focus needed to be shifted to integrated teaching of basic and clinical sciences. The curriculum of undergraduates as well as postgraduates should be such as to apply principles of biochemistry and cell biology to explain and interpret molecular and metabolic aspects of the diseases and health. A need was felt to make changes in the curriculum accordingly and include such teaching methodologies to achieve the target. A methodical beginning of planned curriculum is formulation of clear cut objectives which are learning objectives, teaching objectives and institutional objectives. Vision 2015 document by the Medical Council of India says it all with ATCOM applications.

Medical Education Changes in UAE and its Impact on the Education Outcome

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INTRODUCTION

The pace of changes in medical education has increased dramatically, driven by exponentially increased knowledge and the need to train a large group of learners using limited resources. The modern medical education requires changes to suit the needs of current learning. The medical education stands on the three pillars: Education, patient care, and research, but nowadays the first two aspects have become less relevant to our students and research area has been focused more by the faculties. In our institute, the traditional teaching, such as horizontal integration has been replaced with vertical integration. The advantage is that, the

student will have the content which will be similar to clinical years. This can be achieved by focusing on student-oriented teaching method rather than a lecture-based one. Teaching has been recognized not only for providing information and the exchange of experiences, but also for creating the atmosphere and facilitating the learning environment.

In the UAE, the medical colleges have implemented many changes to suit the need of the hour by introducing case-based learning, problem-based learning, team-based learning, etc. Many studies have shown that real scenario-based learning has high impact on the learning process of medical students. One of the important aspects of a doctor is to become a team leader rather than working alone, but this should be inculcated in their course from the initial years itself. This is achieved by revamping and restructuring medical curriculum with teaching and learning approaches so designed as to ensure that students acquire appropriate clinical and scientific knowledge along with practical, procedural, and communication skills. So, overall, the outcome of introducing changes in medical education is to make a competent doctor.

Writing a Good Scientific Paper: The Beginning

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INTRODUCTION

Scientific experiments are demanding exciting endeavors, but for them to have an impact, the finding must be documented and made known to the scientific community. A scientific paper is a written and published document that describes experimental, observational, or theoretical findings by one or more authors. It is the most effective and permanent means of disseminating information to a large audience. It should be original and detailed enough to enable reproducibility of experiments and measures as well as adds new understanding to the subject.

Unlike a newspaper or novel, a scientific paper has a rigid structure and format, which by international consensus is known as IMRaD – "Introduction Methods Results and Discussion." This is important for uniform means of communication. It reflects subjective intellect and requires good skills in writing, phrasing, and experience but is achievable by everybody.

The development of a research question including a hypothesis and formulating objectives is a key step in the beginning of scientific research. A well-defined and specific research question helps in making decisions about study design and population selected for the study.

The title of article reflects the research question and gives a choice to reader to continue reading or reject. Similarly, the key words represent the major concept of the paper while the abstract is a concise digest of paper. The task of writing the introduction reflects on paper content and should go like a story. This is followed by relevant methodology used. The data collected are then tabulated, analyzed, and discussed.

Preparation and Review of Manuscript, Bibliography, Plagiarism and Authorship Guidelines

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INTRODUCTION

Scientific communications through publications are an integral component of medical profession which remained un highlighted till recently. Though there has been an increasing pressure on publishing the technical know how has not reached the researchers or they are inadequately trained in communicating to a journal. The various steps for preparation of a manuscript start after short listing a journal to which communication is intended. Since many journals have unique styles of acceptance of manuscripts, it is advisable to read the journals instructions carefully before submitting a manuscript.

Although there are many styles for quoting references, the most popular styles are APA, MLA, Harvard, Vancouver, Chicago and Turabian. Citing references becomes easier with the use of some tools available for bibliography like BibMe, Citavi and RefDot. Cite this for me is also available as a goggle extension also and is helpful in saving your references.

Once a manuscript is ready for publication we need to check for the plagiarism or similarity match. The acceptable limits are less than 20 percent but this limit is different with each journal and many journals have their own policies on how much plagiarism is acceptable. There are many online free plagiarism check tools available of which plagiarism is free and user friendly but the most acceptable is ithenticate or turnitin which is cheaper if purchased from the institution.

Though the authorship guidelines are very well defined and have been published from time to time, many authors ignore these and gifted authorship still prevails to a large extent. The authors should refer to authorship guidelines adopted by the by International Committee of Medical Journal Editors (ICMJE) published as "Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals updated in December, 2013

Data Considerations in Publishing the Results of a Scientific Study

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INTRODUCTION

In recent times, the medical education is taking new turns. The expectations from a doctor are changing. From pure defined roles of teaching or treating, a more complete role is being defined irrespective of the specialization. Nowadays, every doctor is supposed to treat, update himself/herself, and also contribute to the growth of knowledge by doing research. The continuing medical education programs which are fast expanding nowadays are able to help the doctors to update their knowledge.

However, once it comes to research, there is still a need to provide an impetus among the doctors. The governing bodies have started off through some regulatory mechanisms, but, i.e., not enough. If we do a gap analysis of this situation, we realize the importance of every doctor to get sensitized to this newly added facet of medical practice.

Research is discovering something totally new or a new aspect of already known thing or adding a new way of approach/thinking to the already established one. In fact, all doctors automatically do research while practicing the profession whether they realize it or not. However, the data are not collected and analyzed properly so as to draw scientific conclusions.

Data collected in a research study will be in accordance with what is planned to be collected as per the study protocol and will have details about the material used as well as information collected to evaluate in order to achieve the objectives of the study. The details of study material are presented in results as baseline data *or* demographic data of the study material. The information collected using the epidemiological and experimental methods, has to be analyzed statistically for exclusion of chance and bias. This includes inspection of data for distribution, selection of appropriate statistical tool, and verification for adequacy of sample size calculated before the start of the study. The most frequently done statistical analyses are testing for difference between parameters, association among parameters, and prediction of outcome based on parameters studied. Statistical tools should be selected in such a way that the results will evaluate the hypothesis. Presentation of results is threefold – text, tables, and figures. Selection of the mode should be based on the purpose of presentation. Details of material are usually presented in the form of tables. Finally, the results obtained by appropriate statistical analysis should be compared with the findings available in literature. Scientific conclusions should now be drawn through appropriate logic supported by current relevant scientific knowledge. Now the material thus generated should be drafted into a scientific manuscript suitable to be published in a scientific platform.

Essentials of Laboratory Risk Management

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INTRODUCTION

Risk management is a process described as the systemic application of management policies, procedures, and practices to the task of analyzing, evaluating, controlling, and monitoring risk (ISO 14971). Simply put, risk management is the process of identifying potential errors that can occur in the lab's testing cycle, determining their impact on patient's test results, and then controlling them to a manageable level. Laboratory testing of patient's samples is a multifaceted and complex process, and errors can occur at any stage. Since the blood tests support majority of the medical decisions, labs need to be proactive and establish preventive measures to minimize the probability of errors. Early detection and prevention of these errors, therefore, forms an important part of total quality assurance. A quality control plan must be developed and maintained to identify areas of weaknesses in all the three phases of testing, i.e., preanalytical, analytical, and postanalytical phases, and specific actions documented to detect, prevent, and control errors before they impact patient results.

Risk management has gained immense importance in lab medicine over the last few years. A typical risk management plan includes risk identification, risk assessment, and risk mitigation. Many risk assessment tools are available, of which, failure mode and effects analysis (FMEA) is the one most widely used. The FMEA assessment results in anticipating the problem, addressing the root cause of the problem, and applying alternative procedures that would minimize potential errors.

Hence, risk management helps in identifying, assessing, and prioritizing risks followed by the laboratory's efforts to minimize the impact of adverse events. Though it does not ensure complete elimination, risk management contributes in reduction of risk resulting in continued delivery of quality patient care.

Guidelines for Method Validation and Verification in Clinical Chemistry

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INTRODUCTION

Method validation is defined as the "confirmation by examination and provision of objective evidence that the particular requirements for a specific method for intended use are fulfilled."

The process of "method validation" actually starts at the manufacturer's facility, where this exercise is elaborate, very lengthy, involves extensive experimentation and detailed statistical analyses, is conducted under strictly maintained environmental conditions, and, needless to say, is also very expensive and time-consuming. The parameters measured and calculated are precision, accuracy, linearity, sensitivity, specificity, intra-assay coefficient of variation (CV)%, interassay CV%, interferences, and biological reference interval (BRI). At the end of these exercises, the product – reagent kit – is sent for approval by the Food and Drug Administration or similar national/international approving bodies. Once approved, they can be marketed for patient reporting; before approval they can only be used for research.

When an approved kit reaches a medical testing facility, the environs are not ideal. Hence, claims of kit-inserts need to be verified before use. Thus, whenever a medical testing laboratory introduces a new analyte in its menu, or a new methodology for an existing analyte, or a new equipment for existing analyte(s), it is expected to ensure that the results released to the patient are accurate (within an acceptable uncertainty of measurement) and are comparable to the results of the same analyte released earlier (in case of change of equipment). Hence, the exercises conducted in the testing laboratory are termed "method verification." The mandatory requirements include establishment of precision, accuracy, linearity, BRI, and correlation. The method and calculations for these are simple but specific, and enable one to confidently use the kits/reagents for patient reporting. Records of these need to be maintained as proof and for future trouble-shooting.

Preanalytical Variables and their Influence on the Quality of Laboratory Results

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INTRODUCTION

The quality assurance system in the clinical laboratory allows for identification of errors and control actions to correct them. There are many factors that contribute to accurate test results in the clinical Laboratory. These factors can be preanalytical, analytical, and postanalytical.

We need to focus on the preanalytical phase because preanalytical variables are undetectable by conventional quality control. This area accounts for 68% of laboratory errors, which includes the time from when the test is ordered by the physician until the sample is ready for analysis.

Improvement in this area would lead to improved practice, reduced errors, and better quality.

This article highlights the issues of variables that can occur right from the test order entry, identification of the patient, preparation of the patient, sample collection procedure, handling, separation and transportation of the sample to the analytical area.

Such errors are inevitable in this phase because of the difficulty in achieving standardized procedures for sample collection.

Causes of errors are wrong patient identification, use of handwritten labels, patient preparation errors, not following proper sample collection guidelines, etc.

Patient identification in a hospital-based laboratory is to be done by an arm band and the legal documents available by the bedside. In outpatient departments, two identifiers are mandatory with cross-verification of the available document.

Use of various equipments in the procedure of phlebotomy needs monitoring, e.g., use of a tourniquet definitely slows venous blood flow down, application of tourniquet for a longer period and fist clenching cause pseudohyperkalemia. There might be increase in the level of other analytes like lactic acid and lactate dehydrogenase. Patient might have latex allergy too.

We need to be cautious in doing phlebotomy in patients with an IV fluid, side of the arm which has undergone mastectomy, and also having arteriovenous fistula.

Proper collection techniques to avoid hemodilution, hemolysis, and proper order of draw become mandatory.

It is very difficult to establish effective methods for monitoring and controlling preanalytical variables, which requires the coordinated effort of many individuals.