

INITIATIVE

Evidence Based Education System (EBES) - Sumandeep Vidyapeeth

V. P. Singh¹, Niraj B. Pandit²

¹Professor, Department of Medicine and Director General. ²Professor, Community Medicine, SBKS MIRC & Dy. Director Research Cell, Sumandeep Vidyapeeth, Piparia.

Corresponding author- drniraj74@gmail.com

Today we live in an age of evidence. The experiential and the textual, if not backed by the evidential, will not cut ice with the scientific community. Hence, whether it be the teaching or evaluation process or it be research, the element of evidence needs to be integral to the entire process. Of late, besides the teaching and evaluation methodologies, research in medical and health sciences is getting lit of attention and emphasis. The Medical Council of India, (the regulatory body of medical education) and UGC which regulates overall University education system in the country, are focusing on research. They are expecting more high quality research from Indian researchers. To give more impetus to this facet of research, the MCI has stressed enhanced promotional policy for faculty engaging in research. Similarly they expect more research from young postgraduates. At world level, the voluminous research evidence collected which is helping to develop treatment protocol and policy at local and national levels.

This process of evaluation of 'research' which was started by Dr. Cochrane and carried forward by various academicians became a revolution after Dr Gordon Guyat, named it; 'Evidence Based Medicine', and Dr Sacket, comprehensively defined it. Evidence Based Medicine (EBM) means the best use of current evidence, in decision making in medicine, with expertise of experienced physicians, keeping in mind the patient's values and expectations. This led to more scrupulous scrutiny of research and publications. Soon evidence based practices evolved in health care specialties,

because of their sound scientific principles and patient centric characteristics, and

became powerful tools for both patients and practitioners. Simultaneously, education sector adopted this methodology, and defined it as "an approach to all aspects of education from policy making to class room teaching, to practice in life, where methods used are based on significant and reliable evidence derived from experiments".

Sumandeep Vidyapeeth took a conscious decision at an early stage, to make Evidence Based Education System (EBES) as the central theme of it's education system. It envisaged to incorporate all the essential elements of Evidence based Medicine and Evidence Based Practice, in the teaching learning process, in all constituent institutions like medical college, dental college, physiotherapy college, nursing college, pharmacy college and management college.

For authentic Evidence based practice, the practitioners ought to have very good evidence searching skills, which can be best transmitted by structured and integrated teaching with the main curricula. In its absence a health care practitioner would either be forced to accept whatever is presented in the name of evidence, or be wasting enormous amount of time searching the real evidence from the volume of evidence emerging almost on a daily basis. More importantly, this knowledge of best evidence is essential in these times of increasing consumer interest and involvement. A practitioner has not only to answer the questions posed by the consumer, but also

to involve them in decision making. A failure to do so can lead to dire consequences, many a times resulting in prolonged litigation and monetary loss. Further, an interest in search invariably would result in an interest in research, leading to a life long habit of looking at local and National problems in the light of emerging International guidelines and attempting to formulate most suitable management protocols catering to local needs. We felt that blossoming professionals exposed very early on to evidence related teaching would grow to become robust evidence based practitioners, who by training would be conscientious, ethical, scientific and patient –centric. This would also lead to control on misuse of diagnostic tools and use of unnecessary drugs. With these objectives we introduced evidence based education system in all our constituent institutions.

What is Evidence?

Evidence means the observation made with purpose or research out come with purpose. These observations or researches can be part of animal studies, observational studies, analytic studies or clinical trials. All studies generate evidences, but all are not equally valid and relevant for health care practices. EBM (evidence based medicine), is the process of checking the validity and relevancy of the available evidences. Thus research method is the key process of generation of evidences. How to generate quality evidence is the key question for EBM? The researchers need to ask as to what are the evidences likely to be generated out of the research? This would fully depend on the research methodology. The researchers should have knowledge of selecting best research methods for best evidence generation. Such quality evidences will help the health promotion of patient and community. For generating higher level of evidences through systematic review & meta analysis, available mid level and

lower level evidences can be used as building blocks.

Level of Evidence –



All researchers should have knowledge of this level of evidence pyramid. Researchers should understand the level of evidence they would generate to add to the knowledge pool. This will gradually lead to higher levels of evidence. Hence it is high time to incorporate level of evidence, generation of evidence and evaluation of available evidence, in the teaching process in medical sciences. This understanding and belief in it, prompted us to initiate Evidence Based Education System in Indian context.

Process and journey of EBES at Suman Vidyapith –

When the idea of instituting innovative unique Evidence Based Education System (EBES) was conceived, an advisory board with academicians from India and abroad was constituted. This board after going through the various processes being undertaken in different parts of the world came up with a roadmap for this institution. A three phase strategy was drawn, entailing training of faculty, identification and placement of infrastructure, and formulation of EBM curriculum with subsequent integration with main curriculum. The entire blueprint

was placed before the highest body for ratification and thereafter implementation was started.

Besides sending its faculty for training in EBM at various conferences and workshops, it organized training of other faculty by these trained teachers. This group of trained teachers were given the responsibility to oversee all the training activities and were asked to ensure implementation in all aspects.

The phase: I of EBES implementation included the soft skills development of all faculty of university, infrastructure creation for implementation and focusing on curriculum for this new innovative system. The curriculum relating to teaching of evidence based skills was developed and this was merged with the main curricula within the parameters of the stipulation by statutory councils. In the phase-2, training of undergraduates and orientation of postgraduates was started. In this system, the undergraduates are taught evidence searching skills, basic research methodologies, quality evidence generation skills and essentials of clinical epidemiology. The subject Evidence Based Medicine is taught throughout course of MBBS. As per the elective EBM curricula we teach 16 hours of this subject in addition to MCI curriculum. Evidence based project work is carried out by undergraduates in each professional year. Assessment of evidence based lessons is carried out along with the University examinations. The postgraduates are given orientation relating to evidence searching skills in the beginning of their course. In the integration process, every undergraduate theory class has an element of evidence in the PICO format (problem or question, intervention, comparison and outcome), relating to some aspect of the text. Every practical and clinical session has evidence based assignments. In evaluation, the university has adopted an innovative Continuous Cumulative Assessment System (CCES) in form of MCQ's, at the end of every theory class

and during practical & clinical classes, the students are evaluated based on various parameters like attendance, active participation in discussion, task completion, history taking, behaviour with patients and other parameters on a log book, on a daily basis. These marks contribute the internal assessment marks. The undergraduates are also encouraged to undertake short community oriented, hypothesis based research like Evidence Generating Community Health Project (EviGenCHIP). The postgraduates have regular evidence based journal clubs with emphasis on critical appraisal. There are frequent sessions of role modelling in OPD's, wards and ICU's, wherein consultants ask questions relevant to a problem and then demonstrate on ground how to search and apply the best evidence. Simultaneously we also insist on the physician experience and patient value system. While evaluating the best evidence, the practitioners are advised not to lose sight of patient's values and local situations.

To sensitize the health care fraternity to the emerging need of evidence related activities, the university organized the 1st International conference on evidence based medicine in 2011, to understand and simultaneously showcase all that was happening in this field. It hosted the 2nd International conference in 2014, which was attended by Dr Gordon Gyuatt (the person who coined the term EBM) and other luminaries in the field. It was indeed gratifying to have the endorsement of our system by the world leaders in the field.

Our innovative EBES has been implemented across the spectrum in all the six constituent institutions & it is an ongoing process. The core EBES team holds regular meetings to take stock of the entire process and suggest remedial measures. The management plays a very proactive role in the entire process.

A number of projects to evaluate the effectiveness and impact of this system

of education have been undertaken and are in various stages of completion. We highlight here some of the studies which are at under publication level.

‘Attitude and perception of faculty towards teaching evidence based medicine to pre- clinical and para-clinical medical students’, was a study done by Bhavita et al. It was a descriptive self structured questionnaire based cross sectional study amongst teachers in our university engaged in teaching through this system. The response rate of the study was 70%. Almost 87% of the respondents believed that teaching evidence based medicine was a welcome development and 80% believed that it would help students in their future professional careers. About 87% were of the opinion that it improved literature and research searching skills. Of these faculty 77% had attended all the EBM workshops organized by the institution in respect and 83% wanted to learn more about it.

In another study “the changing face of medical education : the impact and effectiveness of evidence generating community health project (EviGenCHIP) in medical students” by Dr Trushna Shah et al the students perception and learning effectiveness towards such projects undertaken at our institute were evaluated. It was a self structured questionnaire based descriptive cross sectional study, in which 100 students of 3rd MBBS (Part 2) participated. 90.9% believed that research in medical field was important. However 40% believed that there was no need for medical students to know research methodology. About 56% believed that such projects sensitized them to protocol write up, 40.9% believed it helped them search the literature, 45% felt it made them understand structures questions, improved data collection and capacity to analyse, while 52.5% believed it improved their report writing.

Yet another study “evidence generating community health project (EviGenCHIP) : faculty perception and its effectiveness, outcome and implementation” by Dr Gitanjali et al, tried to get the response of faculty towards 24 community based short projects undertaken by 120 students of 3rd MBBS(part 1). The students were exposed to 2 days of workshop then asked to do the projects in groups and make presentation before a panel of faculty. The response rate of faculty was 83.3%. . Almost 80% believed in the importance of medical research and 70% agreed that such workshops improved research concepts in students. About 73% agreed that data collection by students was effective and through such a method students learnt team work and data analysis. They however felt that report writing and presentation skills need to improve.

Overall, both the student and the teaching community are very enthusiastic about the entire process. More and more students have started participating in interactive sessions, falling back on learning resources and evidence databases for completing their evidence based assignments, and showing eagerness for short research projects.

We hope that the initiative taken by the Sumandeep Vidyapeeth will be a beacon in the field of health care education in India. As we learn from our endeavours and keep the process of evolution dynamic, we keep ourselves open to comments and suggestions from the fraternity. It is a journey in which we happily invite fellow travellers.