I have gone through the document on EBES that you have implemented, it deals with the innovative idea termed “Evidence Based Education System”. I have gone through it critically and I would like to congratulate you for developing such an innovative idea. This is something needed for our education system. This should certainly be applicable and everybody should appreciate it. Only those who are not competent would oppose the idea. We need to look forward and therefore I see a very bright future of the proposed system. Certainly much will depend on the quality of teachers. Therefore there should be quality control at the entry point- which I understand you are doing by means of faculty training lecture series and individual faculty development programmes"

Prof. L.S. Chamyal, Department of Geology, Faculty of Science, The M.S. University of Baroda.

Faculty Training workshop at Sumandeep Vidyapeeth

From the Editor's Desk:
Research, research and more research! World of knowledge has now been flooded with studies. 1500 new articles and 55 new randomized control trials are indexed in medical journals everyday, but how to select a reliable one and how to apply has now become a big question and that is where EBM (Evidence Based Medicine) comes to our rescue. But the problem is not affecting just the medical field, it is universal....., dental, physiotherapy, nursing, pharmacy and even management streams are feeling the heat. Hence, the need for EBES (Evidence Based Education System) and not just EBM.

With this vision, Sumandeep Vidyapeeth has adapted this unique and innovative programme – EBES. The objective is to develop a way of thinking, a philosophy, a paradigm of the practice of medicine, dentistry, physiotherapy, nursing care, pharmacy and health care management for the New Millennium.

We have planned the implementation of this system in a 3 phase manner:

Phase I: Jan 2007 to Jan 2009
- Facilities from constituent colleges were encouraged to participate in the workshops and on EBES and total of 6 such programs were attended.
- Facilities were also encouraged to learn online from various resources available.
- Facilities and University officials also explored the probabilities of collaborations with National and International Universities with similar courses.

Hence this phase looked after the soft skills development of all the faculty members at the University and by the end of Phase I our University faculties were ready and well versed with basics of EBES.

Faculties were identified and under the Director of Research – a sensitizing program was organized in which an Internationally renowned scientist Dr C N Ramchand delivered a talk – Setting up a CRL with facility for Molecular Biology research and Stem Cell therapy facility. He also conducted a seminar on PCR – basics, techniques, applicability and how to set up PCR testing facility.

Need assessment was started for infrastructure requirement for setting up of an advanced and state of art CENTRAL RESEARCH FACILITY with new introduction of Molecular Biology Lab, Genetic Research Lab and Stem Cell related lab. At present our University has completed the Phase I implementation of the EBES and the Phase II has begun.

Future Proposals: (Phase II and Phase III)
- Coordinate with Universities Internationally which are already functioning on these lines and develop a collaborative program with their input (Phase II).
- Review and identify the acceptance of the EB integrated curriculum in the UG courses and take a feedback of the stake holders on acceptability/ ease/ advantage of the EBES integrated curriculum over the traditional curriculum (Phase III).
- Define a curriculum committee for the PG courses and plan to redesign the curriculum with EBES integrated in each PG course (Phase III).

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Currently we have implemented phase III of EBES. We have reached a stage where we can claim to be the only University to have worked in this area for a long time. We have revamped curriculum and implemented this EBES integrated curriculum in all the constituent colleges. Our university is now enriched with six different EBE Systems.

**Evidence Based Education System**

**Evidence Based Medical Education System**

**Evidence Based Pharmacy Education System**

**Evidence Based Nursing Education System**

**Evidence Based Dental Education System**

**Evidence Based Health Management Education System**

**Evidence Based Physiotherapy Education System**

**Evidence Based Dental Education System**

**Evidence Based Education System**

**Key points of EBES are:**

- **Transfer, translate, and integrate basic and clinical research findings into curriculum.**
- **Involve and integrate health research in teaching and learning.**
- **Provide students with focussed track for research and integration of same.**
- **Develop seminars/workshops for faculty and students to provide updates.**
- **Practice**

**Need for EBES**

In India, the system of teaching in medical education has not yet adopted the new approach of EBES. The question arises - what is the need of EBES? Typical medical and paramedical education is based on unsystematic observations made during training, enriched with six different EBE Systems. The term was coined to encourage proficiency in judgments by individual clinicians based not only on “experience” but also on experience informed by results acquired in systematic approach. The essential feature is that the practitioners (when faced with a problem/dilemma regarding decision making in any patient) should be able to perform a literature search, identify the evidence available pertaining to the clinical condition critically evaluate it and determine the “Best Evidence” to diagnose/treat/manage the patient. The concept is based on the motto “Think Globally and Act Locally”. The inability to carry out any of these functions may constitute a barrier to the application of evidence in practice. Health care practitioners today are increasingly urged to ensure that they are delivering care that is based on the best current research evidence, hence EBES becomes mandatory and ours is the first university in India to be implementing it.

**What is EBES?**

It is defined as the integration of professional wisdom with the best available empirical evidence in making decisions. Conceptually, it may not be new but it is certainly new in medical and paramedical education system.

**Evidence Based Medicine (EBM)** simply means judicious use of current, objective information in making decisions about the care of individual patients. It is the optimal integration of best research evidence with clinical expertise and patient values.

The inability to carry out any of these functions may constitute a barrier to the application of evidence in practice. Health care practitioners today are increasingly urged to ensure that they are delivering care that is based on the best current research evidence, hence EBES becomes mandatory and ours is the first university in India to be implementing it.

**.messages from the experts**

**International**

“Good luck with introducing EBM into the curriculum as we all know it is a tough task.........With best wishes”

Dr. Ruth Gilbert, Professor of Clinical Epidemiology, Director, Centre for Evidence-based Child Health Centre for Paediatric Epidemiology and Biostatistics and MRC Centre of Epidemiology for Child Health, University College London - Institute of Child Health.

**National**

I think your vision – EBES - and action will go a long way in furthering the ebm activities in your university and elsewhere afterwards.

**Meenu Singh, M.B.B.S., M.P.H., Assistant Professor, Faculty of Health Sciences, The University of Sydney.**

**“At the outset let me congratulate you for the innovative venture you have embarked in the field of medicine. The era of globalization, where things are becoming so complex, such innovative approach to teaching will be of immense help to the teacher and student as well. I therefore strongly recommend to adopt such innovative practices”**

Dr. S.C.Panigrahi, Professor and Head, Centre of Advanced Study in Education, Faculty of Education And Psychology, The M.S.University of Baroda.

**“Congratulations ! for implementing EBES an innovative educational system. I must say your team and university is first in India and will create a benchmark or rather is a role model in India, you really deserve applause for this. I think there is tremendous scope for application of EB in medical education system. It makes you wise consumer and applicator of information and knowledge. By consumer I mean you believe information sold to you by journals and text books only if it satisfies**
Evidence based practice and barriers:

Evidence based practice (EBP) is the acquisition and application of up-to-date research findings in making decisions about patient care. The aim of this strategy is to choose the best course of action for each patient, based on the scientific evidence available. However, there are several barriers to using current research evidence in practice.

Major barrier to using current research evidence is the speed at which information is generated, requiring for practice of EBM.

A self-directed learner by imparting the skills curricula need to be revamped to train the graduate in the field of evidence based education system.

The access to latest information is still not available in any text book.

Yet in the era of web, majority of information is on the tip of fingers or in pockets.!! The access to latest information used to be a tedious job, & was not very useful if we don’t actually use it.

Purpose:

All of us have seen those days when finding a small piece of information led to much more. We have been looking for one concept and ended up knowing many more. On the other hand, if you read something, you forget most of it. You remember more if you do it yourself, you know it always. The idea is to go from passive to active learning, which is the basic purpose of EBES.

To inculcate active in place of passive and to bridge the gap between text and latest, EBES includes the following elements:

- Promotion of learning culture.
- Regular evaluation of teaching by peers.
- Creating tangible reward system to recognize principles.
- Faculty development program on adult learning principles.
- Active learning. Evidence based education system in Sumandeep Vidyapeeth is implemented with the aim of “Knowing is not enough; we must apply.”

Why now?

All of us have seen those days when finding a small reference for research used to be a tedious job, & needed hours and hours of searching. But now in the era of web, majority of information is on the tip of finger or in pockets!! The access to latest information is very fast and with entry of 3G, the speed will increase by more than four folds. Hence, time-honored undergraduate and postgraduate curricula need to be revamped to train the graduate as a self-directed learner by imparting the skills required for practice of EBM. Sooner the better.

Evidence based practice and barriers:

Major barrier to using current research evidence is the time, effort and skills needed to access the right information among the massive volumes of research. Hence we can approach this in 2 stages: getting the evidence straight and getting the straight evidence used.

Getting the evidence straight: By establishing and maintaining a comprehensive programme aimed at making scientific evidence more useful and accessible to all stakeholders including clinicians and patients – a part of our EBES.

Getting the evidence used: Clinicians frequently have questions about the care of their patients but most of them go unanswered or are answered by old textbooks.

This lack of bedside evidence leads to the 4 step model: ask an answerable question; track down the best evidence; critically appraise the evidence for validity, impact and applicability and integrate the results with the patients unique biology, circumstances and values.

Resistance from the faculty side:

1) Resentment due to the implied assumption that faculty maybe incompetent in their subject areas.
2) A suspicion that they will be evaluated by unqualified people [or those with an ideological difference].
3) Anxiety of being held accountable for performance in an area in which they have little or no training or interest.

Speciality Corner:

Gujarat State level Workshop – Conference at Sumandeep Vidyapeeth

The Sumandeep College of Nursing, Sumandeep Vidyapeeth, Piparia, Waghodia, Vadodara organized a state level Workshop – Conference Suvyscon – 2010 on Evidence Based Nursing Education System Towards Future Challenges, on 4th & 5th October 2010. Many eminent Nursing personalities across the Gujarat state attended the workshop beside 500 participants. For the first time, the nursing professionals exhibited such a workshop with the theme ‘Evidence based practice concept’ in the nursing education.

ACHIEVEMENTS SO FAR:

Evidence based Medicine: Anecdote

Nursing evidence based teacher from Hull University of UK talked on use of salt for personal hygiene and healing. During her graduation period, they used to put salt in the bath tub of the patients as a routine for providing personal hygiene, as they thought it gives relaxation and helps in healing. But evidence based searches suggested that for salt to be effective, the amount required would be in heaps rather than pinches. So after getting this evidence now they are not practicing it. Evidence changed the way of management.

Suvyscon – 2010 souveiner was released by Shree N.N. Shah, the Registrar, Sumandeep Vidyapeeth. As a part of the event at Nagarwada, Vadodara, the participants conducted the Community health nursing research with pre test and post test on prevention of respiratory infection and applying nursing intervention with steam inhalation, besides creating an awareness on prevention of hypoglycemia and foot care for patients with diabetes mellitus at Dhiraj Hospital, Piparia a constituent of Sumandeep Vidyapeeth.

Delegates from University of Hull, UK discussing EBES with Chancellor, Vice Chancellor, Director Research and Director DGH of Sumandeep Vidyapeeth.
For bridging the above barriers, University has suggested following steps:

1. Advocate, develop, and implement regular peer and expert teaching evaluation.

   Research, publication, and grantsmanship are cornerstones of the realm for faculty advancement. It is relatively easy to document one’s activity in these areas; hard data exists for research projects, published articles, and grants received. Data on teaching excellence, however, are hard to come by. If generated by students, they may be suspected as merely popularity indicators. How can superb teaching be valued at par with research if no data exists to document teaching quality?

2. Advocate, develop, and implement a significant, continuing reward system for outstanding teaching.

   Without the prospect of substantial monetary reward and recognition, faculty can easily view time spent on non-scientific research and teaching enhancement courses as a nonproductive activity that jeopardizes academic careers. Evidence is clear that many schools have done a far better job by honoring, rewarding, and encouraging teaching excellence.

Achievements of Sumandeep Vidyapeeth

1. 2007 - Identified the need and therefore started EBES.
2. Formulated EBES core committee (including Heads of all institutes, University representatives and Chairman) with EBES course director and Research Director – directly under the Vice Chancellor.
3. Formed EBES committee (EBESC) at constituent college level and trained them to become empowered to translate skills.
4. Guided different college committees to design and develop a curriculum at the UG level (sample attached) in Medical, Dental, Physiotherapy, Nursing, Pharmacy, and Health Management Colleges of the university.
5. Trained faculty core group started a series of lectures for sensitizing the faculty on EBES. 2 such lecture series saw 27 training lectures by 3 international experts 15 national external experts and 10 SV trained EBES nodal co-ordinators. The lectures series trained 182 faculty members of our university.

Feedback of the participants of the EBES lecture series:

(On a scale graded from 1-4, sessions were rated for content, presentation and overall).

<table>
<thead>
<tr>
<th>Feedback</th>
<th>Very good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>40%</td>
<td>31%</td>
</tr>
<tr>
<td>Introduction to research</td>
<td>49%</td>
<td>23%</td>
</tr>
<tr>
<td>Systematic review and meta-analysis</td>
<td>41%</td>
<td>31%</td>
</tr>
</tbody>
</table>

6. EBESC recommended the following infrastructural requirements (now fulfilled by the University) – virtual lecture halls, Advanced Learning Resource Centre, subscription to good evidence based journals e.g. EBSCO.

3. Base all faculty development efforts on adult learning principles.

   These include a high level of learner self-direction, convenient class times, utilization of participants’ abundant personal experience, emphasis on practical knowledge, and learner desire for rapid application of knowledge and skills.

4. Develop Faculty leadership abilities and treat them as institutional assets.

   As faculty becomes more talented and motivated, so do students. The higher the leadership and scholarship bars, the more capable the faculty and, most importantly, the graduating doctor.

5. Encourage faculty to pursue masters and doctorates in education.

   Such degree programmes are worthwhile for increasing faculty promotions, grant funding, and publications. One- or two-year faculty and advanced student teaching and learning fellowships cosponsored by education colleges and featuring multi-methodology class management experiences in both institutions should also be explored.

Achivements SO Far:

7. Implementing credit system for lectures attended and converting questions answered during the same lectures into direct credits to encourage the students.
8. EBESC in coordination with the SV has now recommended that each faculty should have at least 2 research publications in past 2 years before he/she can be eligible for further promotion. Each post graduate student should submit 2 research proposals over and above their dissertations. The UG student has to do at least one research project (eg STS) before final degree is awarded.
9. Designed a post graduate intake program that has 16 hours of teaching which teaches basics of scientific research including research designs, biostatistics, scientific writing, EBES and other related topics.
10. Encouraged its faculty to participate in various international & national workshops – most recent was organized at PGIMER Chandigarh in collaboration with RCPCH (UK) & ICMR on “How to teach evidence based medicine” – and a group of 6 faculty of SV got trained during this workshop.
11. Formulation of Three Curriculum Committees for integration of EBES in the Curriculum.
   a. Medical Committee headed by Professor Sagun Desai
      For example in MBBS curricula, 16 hours of EBES in first year, 16 hours in second year and 25 hours in third year until 25 hours in year three of exam of EBES is incorporated.
   b. Dental Curriculum Committee headed by Professor Bharat Mody.
   c. Committee for Management College, Physiotherapy College, Sumandeep Pharmacy College and Sumandeep College of Nursing headed by Professor A. K Seth.
12. Updated the Learning Resource Centre (LRC) with all required subscriptions to support EBES (e-journals as well as 200 new books on evidence base.
13. Conducted an extensive orientation program on EBES for PG and undergraduate students.
14. Organized a State Level Workshop – Conference on “Evidence Based Nursing Education System Towards Future Challenge” on 4th – 5th October 2010 (about 600 delegates got trained).
15. Developed fully functional SV Independent Ethics Committee with a written SOP that is compliant with ICMR, Schedule Y & ICH-GCP.
16. Developed fully functional Institutional Animal Ethics Committee (IAEC) with a written constitution and SOP.
17. Established a University Research Cell which is fully functional since June 2008.
19. Developed a university code of conduct for research.
20. Proposed a new PhD program on molecular biology, stem cell therapy and new drug delivery system.

Where we are now: Current Status

Sumandeep Vidyapeeth is looking at a multidimensional revolutionary change in the education system and though we understand that this is rather ambitious goal, SV as pioneer has completed implementation of phase I and Phase II of EBES and currently implementing phase III.

A team of one University Coordinator, 5 nodal and 33 departmental coordinators is created and every department has submitted a presentation based on evidence based education system guidelines with the purpose of having a complete collection of reusable teaching aid for EBES which can be updated at regular intervals for inclusion of recent advancements in the concerned subjects.