The book is essentialy meant for:--***Medical and Dental Doctors, Nursing and Para-Medical; Educationists, Policy Makers, Curriculum Developers from schools to higher education.*** The book has extensively health care based examples but the concept and context is in all the above mentioned fields.
Evidence Based practice is not to be used as a special theoretical concept but is to be ***integrated into day to day practice and all interactions or encounters***—with patients, colleagues, faculty and seniors and with the team.
The book is in two volumes and four sections.
Section 1:--This deals with the Introduction; need and benefits. It then in a detailed and stepped manner guides the reader into the 5 As of EBP that is—Ask; Acxcess; Appraise; Apply and Assess. ***Each of these steps are explained with examples in a walk-through process.***
The book is “exemplar” based with practical everyday questions of routine Medical and Dental practice. It guides the reader in quickly accessing and assessing the evidence and see how the research is used in the third section.
Section 2:--This section walks the reader through the Research Methodology. ***Research Parameters, Research types, Research Designing and the necessary Statistics are explained.*** The explanation is directed to understanding research need and necessity in health care practice rather than just give factual knowledge. Research and Statistics are explored in the context of health care delivery linki8ng the concepts to the context to make it of practical use. It then explores the needs of Evidence Based Education System’s research requirement—***the way ahead*** to integrate research into practice.
Section 3:--This section deals with the health care delivery process and how the delivery is to be done in a safe, patient centric and effective manner. Thus it explores the processes to be used in—***Decision Making, Diagnostics; Therapy, Causality, Prognosis and Harm for evidence searching, use and understanding effects. These are explained in separate chapters and the application and assessing is done in a separate chapter dealing with the pandemic—Covid 19 ground reality.*** These chapters explain the process of health care research, its assessment and conversion into protocols. The pandemic has taught or rather brought to the front how our health care delivery and education both have lost direction.
Section 4:--These chapters deal with our curriculum and health care education. A situation analysis of the current curricula and their lacunae are explored. Then the need for change as a correction is explained in detail. The correction are explored in the three domains of ***Cognitive/ Intellectual; Psychomotor and Affective covering the Communication skills and soft skills of professionalism, ethics, integrity and empathy***. Along with these several concept interrelated and associated are explored extolling the “***need for change in content and direction”***.
Nothing can be accomplished if we pursue our degree based faculty recruitment rather than teaching abilities. ***The Faculty Development chapter deals with describing what and why to teach (to give context); how to teach; and how to assess.*** The faculty development programme is thoroughly explored including the

microteaching concept both for fresh recruitments and development of existing faculty.

The last chapter gives the template of the direction in which the health care education needs to change—for the better. **Template is explored with an example of medical and dental problem.**

There is a conscious effort by us to follow the Evidence but what changes is the fact that an attempt to ***interpret the context to which the knowledge is directed by the conceptual process.***

The book has several new explorations necessary for today's health care delivery and health care policy. New avenues some tried and some not tried are explored for ready implementation. Covid 19 the greatest "Guru" for health care directional thinking is the basis.

Downside:-- The book is voluminous in content, explanation and implementation avenues.

Read More

PROLOGUE

Evidence Based Education System (EBES*)*

Health has been ubiquitously defined as a state of equilibrium with the influencers on the human body---Physical well-being; Emotional stability; Intellectual cognitive understanding; socially compatible and active; spiritual stability and uplifting; environmentally unaffected; occupationally active.

Unfortunately, the Medical and Dental fraternity have only taken the physical aspect into their health care delivery and education. This is borne from the conditioned reflex developed in the past decades by the fact that modern science has made strategic leaps in the awareness of disease and its effects. This has evolved into procedures, concepts which promote using several discerning ways to either slow or stop the disease process. The slowing is related to increased realization of the limitations in the efforts which may not cause total disappearance of disease.

In spite of this enhanced awareness, the traditions of health care delivery based on the supposedly doctor's superiority have not gone away but in fact thrives. Lancet has defined it narrowly as "health being absence of disease". The concept of the human body with its interlinking; interdependence, and interrelation of effects is still missing. The awareness has caused a grudging acknowledgement of the "holistic", human body concept by adopting –the integrated treatment modality using alternate medicine. But this is swiping the dirt under the carpet by acknowledging but not really practicing and putting it as "adjuvant therapy".

The oldest health care system—Ayurveda already works on these principles acknowledging the holistic human body concept of "Prakriti" or body constitution. The technology improvement in Ayurveda has stopped due to poor research but the fundamental concepts just cannot be ignored. What is needed is to integrate the concepts and context of Ayurveda and Yoga into the allopathic philosophy by creating a hybrid system.

If humility prevails, the high pedestal can be forsaken and the Evidence Based Education System's holistic approach can be adopted.

Our health care education is totally based on tertiary care conceptualization. Primary and Secondary care is lost by discipline based teaching. Primary care and prevention is left to Pediatric Medicine and Pedodontia and Public Health Medicine and Dentistry. It has failed to integrate in health care delivery by our discipline based approach.

"It is time to merge, be integrated and really fulfill the aims of health care delivery instead of acting in our self-made silos of disciplines and fragmented treatment."

The same is the case of Communication soft skills related to Professionalism, Empathy, Diversity sensitization, Leadership and Team work culture. These are treated separately as a subjected and not integrated in daily health care delivery or education.

"Treating and taking didactic lectures separately in these aspects never merges with the health care practices and education—a major flaw in our educational context."

Health care is multidisciplinary, holistic and interlinked to all body systems—disciplines in our education. Covid 19 pandemic has endorsed this view by exposing our fallacy of discipline based treatment in our educational institutes and hospitals. Both the treatment and education need to be multidisciplinary instead of the present fragmented approach. We need to foster, promote and think in multidisciplinary method for treatment procedures and educational methodology. This can only be done by rethinking on our educational and treatment concepts and contexts which needs to be multidisciplinary.

We need to adopt co-teaching by multidisciplinary teachers (co-teaching) in Theory, Pre-Clinical work and Clinical work output.

Patient preferences, diversity context and decision making in health care has never been adopted and integrated. Today in health care, we still just tell the patient what needs to be done—passing the sentence as in a court. Informed consent is taken on a blanket sheet without really practicing the concepts of creating an 'informed patient' or the procedure for procuring the consent either at decision making level or initiating treatment.

We need to practice the concepts and context of decision making process and the treatment by shared processes by including and getting the patients' and other stakeholders' consultations and inclusiveness.

Curriculum development has had a lot of conceptual changes but limited contextual modifications. The old traditional curriculum was teacher-faculty centric telling what the faculty should teach. This was found to be restrictive and not fulfilling. Thus we graduated to today's student centric approach. This led to breaking all tasks into competencies. The students were supposed to master each task as competencies gained. The research has proved that this approach being an improvement over faculty centric was still leading to unsatisfactory health care context.

We need to remember that health care goal is patient treatment and satisfaction and this can only be achieved by being "patient centric".

Health care is found to be deficient on several counts but the chief reason is that it is based on tertiary care and discipline oriented and thus predominantly experts or specialty oriented. This leads to a situation where patient evaluation is done on "physical" basis being only the first part of definition of health. Thus laboratory investigations and Imaging interpretations are the method of estimating patient problem. The holistic concept is lost in the investigation parameters. Treatment thus is a knee-jerk reaction and tends to be aggressive. Patient constitution understanding the life-styles, preferences and choices are lost as there is nobody who has followed the patient over the years. This can only be done by the "Family Physician".

We need to resurrect the family physician concept of being the leader of the health care with control of the entire health care delivery process of the patient who is under his care for a long time. Experts and specialists should be called only for their expertise but not be central to the health care delivery process.

Curriculum is divided into explicit, implicit and hidden. Explicit is the documented and specified part. The implicit is nearly 50% of the curriculum which is not specified but is expected to be learnt by the student on their own. Prior knowledge enhancement, being prepared, assimilating, analysis and synthesis of knowledge are functions which are relegated to the students' abilities rather than as guided component. This causes inequity in education.

EBES curriculum converts the implicit into explicit and thus provides evidence of the students' transition from novice to expert.

The Hidden curriculum is related to the work culture, infrastructure, interior arrangements and processes which are instrumental in creating knowledge and experience by being a part of the process. We need to develop the Health Care Ecosystem.

This has been missed in the curricular development and needs EBES processes to be made explicit and researchable.

Health Care Delivery in our current curriculum does not guide students from novice to experts in a stepped and scaffold like manner. Our students are not guided from simple to complex, from easy to integrated, from simple data to analysis and synthesis as mental processes of critical thinking and cognitive development. Secondly, no patient comes with "doc, I have a cyst, please treat me". The patient comes with a swelling and the student has to differentiate, analyze and create patterns to diagnose and treat a patient. This cannot happen with discipline based treatment. A multidisciplinary approach with guiding student from simple to complex is required.

EBES promotes a Spiral curriculum with patients' chief complaint based curriculum development, which breaks down from a top down approach to creating the working diagnosis. This is followed by a bottoms-up analytical process to create an advanced health care scenario. EBES does not advocate discipline based teaching which is deficient in being multidisciplinary, holistic and collaborative.

Covid 19 has opened a multitude of concepts which were neglected and we were forced to acknowledge in absence of fully evidence based approach. Today confirming prior knowledge, student interactions and knowledge applications can be done by Blended Learning approach and Problem Based Learning. Didactic lectures should be a thing of the past due to their stated and researched lacunae. Secondly, today's students are of Gen Z, technology savvy, wanting to be in control of their education. These are characteristics of adult learning, Andragogy principles and following the Millers pyramid and Blooms taxonomy.

EBES promotes a hybrid on-line and off-line teaching, Andragogy discussion based learning in place of teaching and using technology in providing platforms such as Learning Management Systems and "Blackboard" like on-line systems.

The issue of diversity and the lack of sameness in a batch of students need to be differentially handled. One cannot have the same strategy of creating learning for all students. Students will need to be segregated into "similarly abled" students in cognitive, psychomotor and communication domains. This segregation will create the small groups. Each group will need to have specific educational strategy initially till all the groups are brought to the same level and then the sameness of instructions can be given. This process will have to be accomplished in the first two years.

EBES based curriculum envisages this problem and has a ready solution.

Memory for long term knowledge acquisition and life-long learning is developed by episodic memory development. Experiential learning should be our educational instructional base instead of *today's observation and hopefully learning concept of the curriculum*. For this active experiential learning should be initiated as a process with students working in teams.

EBES promotes guided experiential learning, student co-ordinated health care delivery to give the students a hands-on experience.

Holistic health care needs to advocate an integrated health care delivery system by creating a hybrid, multiple health care philosophical concepts and treatment modalities.

EBES promotes a hybrid system of current technology efficient allopathic system with the philosophical "Prakriti" concept of the oldest but validated and comprehensive, holistically developed health care system—Ayurveda.

EBES concepts and Context is different and both the students and the faculty need to be sensitized, exposed to learn and relearn the conceptual approach. Thus an elaborate faculty development program inculcating—memory concepts and their enhancement in students by well-directed instructional strategy is a prerequisite. The information boom has made bookish knowledge (students' based) obsolete or not-current. Keeping abreast of all knowledge is also not possible. The prevailing educational ethos is based on students' memory, recall, retrieval and then hopefully application. The students working memory has limited space and cannot

remember and analytically process information at the same time. *Education is not about assessing the students' recall and remembering the information, it is more about applying the information through analysis of information.*

EBES promotes making information available by the searching process and not expending the working memory space by giving as-and-when-required information through quick searching. EBES provides tools for critically appraising the information and doing the necessary calculation within a minute and prevent working memory overloading. This leaves the student with information and calculated results giving opportunity to students to apply the same precisely and competently in health care delivery process.

Technological boom has created a plethora of tools for the health care professional. In education serious gaming, a tool, is already in existence and is most applicable to our present Gen Z students. The advent of AI, AR, Holography, 3 D printing, increased use of Imaging modalities and the Virtual technology is transforming the health care scenario. In future the concept of "serious gaming" will be contextual game-changer in the health care educational development and delivery.

EBES has provided the means for incorporating these through its concepts to apply technology to specific contexts.

EBES is the future and the future is already here.

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