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Review Article

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EviGenCHIP - evidence generating community health project: a review

Shridhar Rawal*, Vasudev Rawal, Niraj Pandit

Department of Community Medicine, SBKS MIRC, Piparia, Gujarat, India

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*Correspondence: Dr. Shridhar Rawal,

E-mail: shree802000@yahoo.co.in

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ABSTRACT

A new initiative in the field of medical education in the form of research orientation of the students with hands on experience of step wise methodology for carrying out evidence based research activity is carried out in the pattern of PSBH and is called evidence generating community health project - EviGenCHIP.

Keywords: Evidence, Community based, Student project

INTRODUCTION

Practising medicine is an art transformed from an art based on, "belief in supernatural force" to "art based on science". The physicians are able to take critical decisions without definite information and it inspires confidence in patients. This art is learnt by observations of talented physicians and by practice and gradually transmitted to trainee

Now, the practice has transformed to documented evidence and later on to validated evidence.

In scientific context, evidence broadly means anything in support of an assertion. Any assertion, in statistical terms what we call a research hypothesis, requires a basic platform of data. This is the first step of moving towards an evidence based medicine. This set of data may be generated by different methods - observation based or intervention based. The collection and interpretation of data may lead to modification or refusal of hypothesis also in case it does not support the hypothesis. That is why it is extremely important to ascertain the quality at the stage of data generation.¹

EviGenCHIP - Evidence generating community health project - is the first step to move on this ladder to reach to

better or if possible the best quality of evidence. And as it is said the long journey starts with the first step. The beginning of any story is with single word. And the next important step has to be in the right direction. The EvigenCHIP is an attempt to provide the future health care providers the start of an extremely important journey and then to guide them in the right direction which will ultimately lead them to the best quality of evidence.²

The ABCD of research starts with the birth of the child. But the actual understanding of research in scientific terms requires thorough training, in step by step manner. And that is why it is necessary to evaluate or assess the publications or research findings in a systematic way. This can be done only if the reader has proper understanding of different concepts and methodology of research, which forms the basis for classifying the evidences in different levels.

The goals of generating evidence, as mentioned by Glen Jones, is to change the belief (accept or reject the hypothesis) and to change the recommendation.³ WHO has formulated a task force for research and published with title - changing mindset - worthy for evidence based mechanism of scientific research.⁴

EBM 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.

When the attempt is made to initiate the process of research at the student level, to be specific at Under Graduate student level, the data generation requires to be well supervised and guided. The inquisitiveness among students is also needed to be attended and converted into appropriate research question.

The Dreyfus Foundation, New York had made an attempt to implement this in the world through the concept of PSBH-Problem Solving for Better Health. It is an initiative to encourage students to seek local and affordable solutions for the health problems prevalent in the region. During this process, it was apparent that, there is a lacunae of proper understanding about the process of carrying out research and what kind of research can be of more use and scientifically more acceptable. It was, hence, implicit to encourage students to understand different types of research studies, the methodology to carry out such studies and the weightage of the studies in context of the evidence Hiararchy. This led to the development of the concept of EviGenCHIP.

EVIDENCE PYRAMID

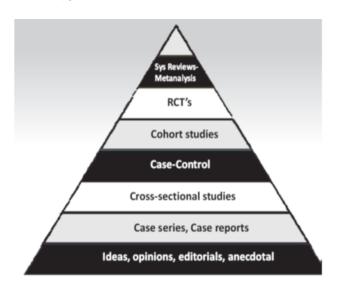


Figure 1: Level of evidence in research.

The EviGenCHIP attempts to provide a baseline platform for carrying out quality research to students. The level of evidence gradually improves with passage of time in this process.⁶

The undergraduates of today are interns of tomorrow and Post graduates later on. The increase in educational credentials makes the thinking process more developed and this progress in intellect intends to search for better evidence. But as of now, there was no such method or in lay terms, a stair case which can lead to better quality of evidence.

These interns or post graduates are the base of future health care force. The population to be served by them is also passing through the phase of increasing level of education. It has generated an awakening towards scientific reasoning for a number of aspects of life. The technological advancements in the fields of communication and internet have helped to quench the thirst to some extent. But, again the available literature is in excess. The excess word has to equal in both terms - quantity and quality.

The rising awareness among customers of health care is definitely leading to increased alertness among the care providers. This has to be acceptable in terms of quality of the care to the customers. This can be possible only when the health care provider has the best or at least better quality of evidence.

We need to make our teaching structured and evaluation objective. The knowledge of research method should be must to ensure developing scientific temper.

We need to create a cadre of "clinician cum scientist". The clinical practice and research has to go hand in hand. We need to produce thinking doctors and not the technicians. EviGenCHIP makes endeavour to bring this concept to reality.

Scientific evaluation of outcome with a longitudinal collection of evidence which stands the test of valid statistics becomes definite evidence. This evidence if reproducible in the hands of various other clinicians, researchers influences the practice of medicine. The evidence once generated should be available beyond the geographic boundaries and human life. The evidence that is retrievable beyond human life contributes to the growth of science and that is how the clinical practice is changed.

WE NEED TO PUBLISH THE CREDIBLE DATA TO DOCUMENT THE RESEARCH

The research done and observations seen are needed to be documented in published literature to be used in future by one and all. This is only possible if we publish our observations.

There is no substitute for good analytic work and publication in peer reviewed journal. Nothing is more satisfying than seeing one's name printed in an article in a peer review journal. Very little contributions are available in published literature from India. It is unfortunate that from India where 600-700 dissertation theses are conducted every year and have more than 300-400 state of art institution publishes only few articles. For a publication one needs to have a clear research question being tested. Once a research question is defined the variables are to be chosen to test research question. The evaluation tool should be scientific and observations statistically significant to ensure that results are valid.

The conclusions drawn should be based on observations and an answer to research question.

Types of articles published are majority case series or cross sectional type. The articles with better quality and higher level of evidence are hardly 1-2%.

PROCESS

- EviGenCHIP, a student lead research project initiative, has in its format the participation of each and every student.
- Every student passes through the process of research activity - Formulating research question, designing protocol, calculating sample size, deciding time frame, going through related literature- with active guidance of faculties well trained in research methodology and having CVs with international publications. Additionally, all the students are trained in levels of evidence.
- The students later collect the data from the concerned field- usually a community based data and in some cases data obtained from hospital.
- The attempt is to make students choose community based research question and try to make them aware of field reality of common community health problems. The data collection process makes them experienced of community reach and communication.
- The process does not stop here. The data undergoes statistical analysis by students under guidance of experienced faculties.
- All these steps follow strict time frame. With analysis available, the team of students prepare the report. It is presented by the team in front of all the guide faculties, senior professors and whole batch of students. This experience brings great confidence among students.
- The presented report after little modification is made perfect for publication.
- Thus, the team of students generates a valid, reliable, credible research publication based on data of unexplored field and community - a unique contribution to the world.

EXPERIENCES

As any process in incomplete if it is not evaluated, the perception study on students of SBKS MIRC was carried out to know their genuine opinion about the activity. The results are quite encouraging. In the study population of 110 students, 100 students (90.9%) believed that research in medical field is important. On the contrary

40%students believed that there is no need to know about research methodology. After evidence generating community health projects students were sensitized to the protocol writing (56.3%), searching literature (40.9%), structured questionnaires, data collection and its analysis (45%), report writing (52.7%) and presentation as an integral part of research process. Majority had conceptualized the crux of research concept, and admitted that the project was helpful to them. However, almost 90% of respondents did not think to publish the data-a common developing country mindset. Around 80% respondents conveyed that they felt an improvement in their diagnostic, communication and creative skill following the project. The study reveals an unmet need of community based ground level research through budding health care professionals and their publication.

WAY FORWARD/SCOPE

It is likely to be greatly helpful to the medical students to have the habit to search for best available evidence, which will be the result of going through the process of EviGenCHIP. Even after starting post PG life, the habit will take them through the same process.

Add: Ven diagram: Evidence + Experience + Pt. value

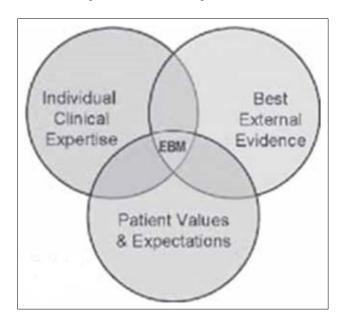


Figure 2: The EBM triad.

Up till now, the evidence generating research has paid attention to just two components of EBM, i.e., evidence and experience. EviGenCHIP has the scope to pay attention to the most important and revered component of patient value.

INDIA CAN LEAD IN EBM

Leader is defined as a person who commands or guides or inspires other. "The leader could be a person, an institution or a country.

India has clinical problems at hand, the intellectual capacity, the technical knowhow and infrastructure to do research and generate evidence. India can give evidence for high income countries also because we have approximately 220 million (20% of total population) privileged populations; who can match in financial capacity globally. This number is more than United Kingdom and insured population of USA. We have expertise and state of art centres. The numbers of patients for these clinical problems are sufficient to conduct research.

We can generate evidence for both developed and underdeveloped countries. Sir AL Eyre brook once wrote orthopaedic surgery practiced in developing country differ from the western world as they have different spectrum of disease because of uncontrolled disease process and less satisfactory condition to function. The needs of patients from developing countries are different than that of developed world. He believed that poverty in material resources does not match with poverty of intellect. Lot more can be learnt from the developing countries. The popularity of Jaipur foot in Asian countries over SACH is a direct reflection of difference in the need of patients of Indian subcontinent. ¹⁰

The doctor's patient ratio is poor hence are overburdened by patients. The documentation and record keeping of the patients is very poor. Since most of the population is migratory (living on rented accommodation) long continuous follow-up is not available. On the other hand the corporate hospitals have state of art technology. But they have a limited clinical work in volume and spectrum of diseases.

The undeveloped countries will have to generate evidence for their clinical problems. This is true for India and rest of two third developing world. The very basis of Cochrane collaboration in generating reliable and robust evidence is systematic reviews and meta-analysis.

The well conducted studies and RCT's, for the problems of India and other developing countries can only be conducted in those countries where they are prevalent. Through EviGenCHIP the basic principles of conducting and understanding best kind of research, like RCTs, is inculcated to new generation of doctors. This will shape the future of health care of India towards positive health.¹¹

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