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Symbiosis Institute of Health Sciences (SIHS)

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Foreword

Dear Readers,

Greetings from Symbiosis!

I am privileged to present this commemorative issue of the Symbiosis Health Times. This academic journal is one of the bulletins of the Symbiosis Institute of Health Sciences that publishes articles, which are related to healthcare sector and the associated stakeholders like IT, Pharma, Health Insurance, NGOs, Hospital, Wellness, Medico Legal, Medical Technology and so on.

Health care delivery system in India is undergoing a transition from unorganized to an organized sector. The growth and sudden spurt in the healthcare business can be attributed to many variables including robust Indian economy being foremost factor. The awareness for quality healthcare has increased within the domestic healthcare consumers. The disease and demographic profile of country as a whole is also changing.

Symbiosis Health Times thus covers a gamut of topics ranging from conceptual topics like researches to practical topics.

I am sure that the 'Knowledge Bank' will prove to be quite interesting and useful wherein we have compiled articles on vital and current issues.

I am sure that this issue will enlighten all of you and give you an insight on the Indian healthcare system.

Dr. Rajiv Yeravdekar,
Dean, Faculty of Health and Biomedical Sciences
Symbiosis International University (SIU)

From the Editors Desk

Dear Readers,

Greetings from Symbiosis!

It gives me an immense pleasure to publish Symbiosis Health Times on the occasion of XV National Seminar on Hospital / Healthcare Management, Medicolegal Systems and Clinical Research. In this special issue faculty and students of SIHS & sister organizations have contributed various articles.

This issue focuses on various verticals of health care industry, research articles, clinical trials and biomedical research.

The article on 'Greenfield Hospitals' will take you on different levels of learning zero carbon foot print whereas the article on 'Major breakthroughs in healthcare' gives you an insight on rapidly evolving medical technology. The article on 'Free home delivery' will provide you an insight into quality improvement and patient safety. The 'Clinical trials in Ayurveda' and 'Formula 1 and healthcare' will certainly tickle the dormant cortical cells in your brain.

The abstracts and knowledge certainly will give you an idea about the current trends in research and ever changing healthcare system.

I am sure that this publication with an array of thoughts will firm up our bonding further. I profoundly thank the review committee and the team of juries who have contributed their rich experience and expertise towards bringing out this issue.

Dr. (Brig) A. P. PANDIT
Professor (SIHS)

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Perceptions of Greenfield Hospitals about Adoption of Electronic Medical Records

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Abstract

Electronic Medical Records (EMRs) are the tools to drive clinical transformation. Greenfield hospitals have several inherent benefits. Taking advantage of these, an association can be built up with them which may lead them to adopt EMRs. This study aims to identify organizations interested in the adoption of EMRs. The study involves a thorough search of greenfield hospitals and followed by understanding their perceptions about adoption of EMRs. These views may help generate potential leads who may want to adopt EMRs.

Introduction

EMR is an application environment composed of the clinical data repository, clinical decision support, controlled medical vocabulary, order entry, computerized provider order entry, pharmacy, and clinical documentation applications. This environment supports the patients' electronic medical record across inpatient and outpatient environments, and is used by healthcare practitioners to document, monitor, and manage health care delivery within a Care Delivery Organization (CDO). The data in the EMR is the legal record of what happened to the patient during their encounter at the CDO and is owned by the CDO.

Healthcare Information & Management Systems Society (HIMSS) Analytics has created an EMR Adoption Model that identifies the levels of EMR capabilities ranging from the initial Clinical Data Repository (CDR) environment through a paperless EMR environment. This model has been developed to assess the status of EMR implementations in care delivery organizations. [1]

Max Healthcare is the first hospital in India to receive Stage 6 on the HIMSS EMR Adoption Model. Stage 6 represents an advanced level of sophistication and puts Max Healthcare literally in a league of its own in India and amongst the top 5% globally. [2]

As per the report, "Healthcare Information Technology Market in India" released by Frost & Sullivan, EMR services have a high growth potential at an estimated Compound Annual Growth Rate (CAGR) of 13.5 per cent from 2009 to 2016. With many new private hospitals opening in the next few years, investment in EMR is expected to become a necessity for these hospitals.

EMRs have certain benefits:

- Ability to improve clinical outcomes[3]
- Availability of Evidence Based Medicine guidelines[4]
- Availability of Clinical Decision Support System[5]
- Continuity of care
- Ease of data storage (over a long period of time, in a cost effective manner)[6]
- Standardization of clinical processes[7]
- Increased patient safety[8]

- Completeness, correctness & ease of access of clinical information[9]
- Improved communication among clinicians[10]
- Easy research & analysis of patient data[11]
- Increased clinician accountability[12]
- Increased clinical efficiency[13]
- Improved security of patient data through encryption[14]

Greenfield hospitals have several advantages in adopting EMRs, such as:

- little or no change management involved during adoption
- rapid implementation and adoption
- less risk of disruption of operations
- no restrictions imposed because of pre-existing systems
- less barriers to adoption[15]

This study aimed at identifying the management of greenfield hospitals interested in the adoption of EMR.

As there is a huge potential for implementation of EMRs, it is important to ascertain a population among the study groups which will be keenly interested in adoption of EMRs.

It was important to solve this problem so that the number of people to talk to narrows down to the right people who may be potential leads. This may help in identifying a target population which may be keenly interested in adoption of EMRs.

There are many barriers to the adoption & implementation of EMRs. They are as follows:

- Heavy patient load will not give time to use the system
- It involves a major process change
- It is not required
- Skepticism about vendor support
- The system will be difficult to adopt & use [16]
- It is very costly [17]
- Doctors will not accept it [18]
- Nurses will not accept it [19]
- There is no spare time for training [20]
- Reliability of the system is under question [21]
- The system will decrease patient's confidence in the doctors
- Use of the system will give less importance to doctors [22]
- The system may equate to confidentiality issues & patient privacy [23]
- Integration with multiple information systems is a challenge [24]
- There is lack of willingness to invest in the tool [25]

Materials & Methods

Sample Characteristics:

Sample: Management of Hospitals

Sampling Technique: Stratified Sampling

Using a literature search strategy, the Google search engine was used to identify relevant papers &/or articles published in journals, news dailies, magazines or research reports. The applicable articles were identified based on the following selection criteria:

- Investment: The minimum investment for 100 beds &/or of Rs. 100 Cr.
- Date of commissioning: Not earlier than date after 9 months from July 2012.

Sample Size: 30

Contact details of potential respondents:

The identified hospitals were contacted in order to find out the contact details (email address &/or contact number) of the decision maker of the hospital i.e. Board of Directors. If this could not be obtained due to constraints like hospital policy, the contact details of a person in the position like the medical superintendent or medical director were obtained.

Scheduling of appointments:

Communication of intent of the study:

An email was sent to the concerned people. The email gave a brief outline of the study and requested for an appointment for a short discussion.

Follow up to receive appointment:

A rigorous follow up of those who had not responded was performed in order to finalize an appointment.

Research Instrument: Questionnaire

Design of research instrument:

A questionnaire was prepared to achieve the objectives of the study. Some of the questions were designed based on the available literature on the topic.

Method of Data collection:

Telephonic Interview and Personal Interaction.

Analysis Software:

- Microsoft Excel 2007
- SPSS 20.0 for Windows

Analysis Techniques:

- Pivot table & Pivot Chart
- Cluster Analysis

Results & Discussion:

The awareness among respondents about a tool/technology which can bring the features studied previously to a hospital is as shown in Figure 1:

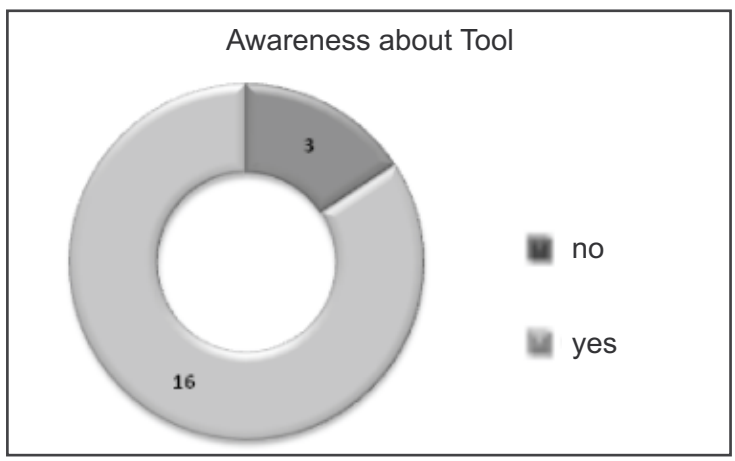

Figure 1: Awareness about tool (Hospitals)

The three hospitals which were not aware about the tool were:

1. Hospital 4
2. Hospital 5
3. Hospital 13

However, when asked if they would like to know about such technology, the respondents from these organizations showed willingness to know about the technology.

The awareness among respondents about hospitals using this kind of a tool/technology is as shown in Figure 2:

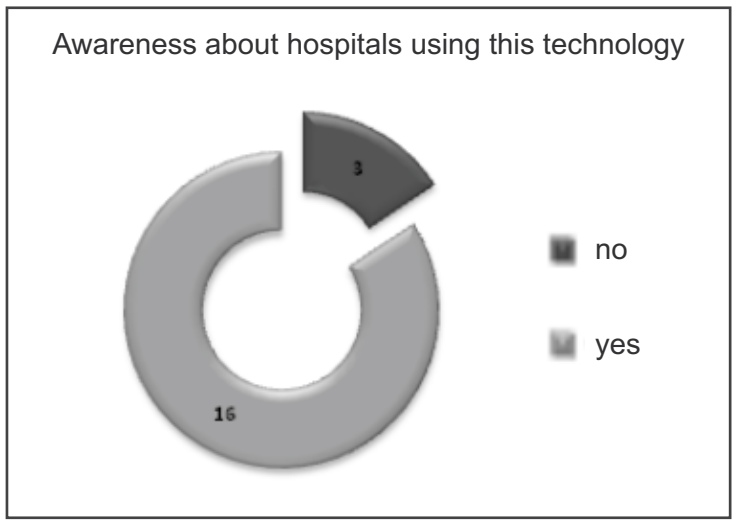

Figure 2: Awareness about hospitals using the technology (Hospitals)

The three organizations which were not aware about hospitals using the technology were:

1. Hospital 4
2. Hospital 5
3. Hospital 13

The awareness among respondents about organizations offering this kind of a tool/technology is as shown in figure 3:

Figure 3: Awareness about organizations offering technology (Hospitals)

The respondent from Hospital 3 said that none of the systems offer a complete solution.

The 4 hospitals which were not aware about organizations offering this technology were:

1. Hospital 4
2. Hospital 5
3. Hospital 13
4. Hospital 16

The response to whether the hospitals would consider investment in such kind of technology is as shown in Figure 4:

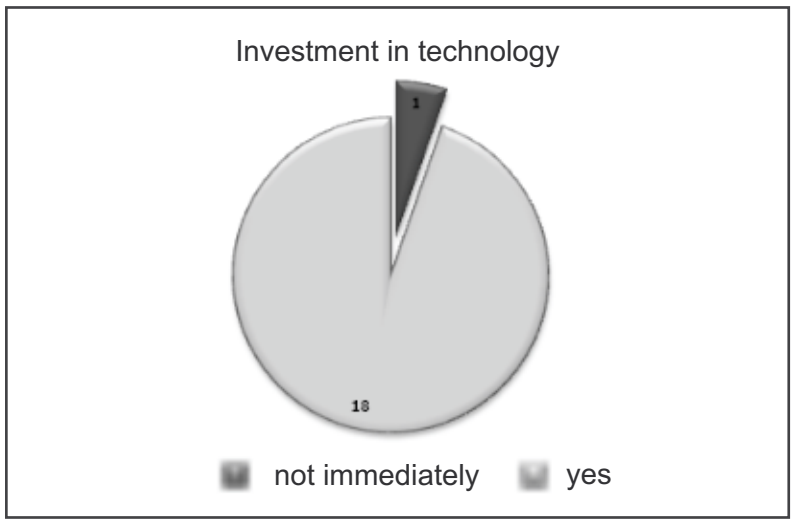

Figure 4: Investment in technology (Hospitals)

All except 1 i.e. Hospital 18 would want to invest in this kind of technology. This hospital would not like to invest immediately.

The set up(s) where the respondents would want investment was is as shown in Figure 5:

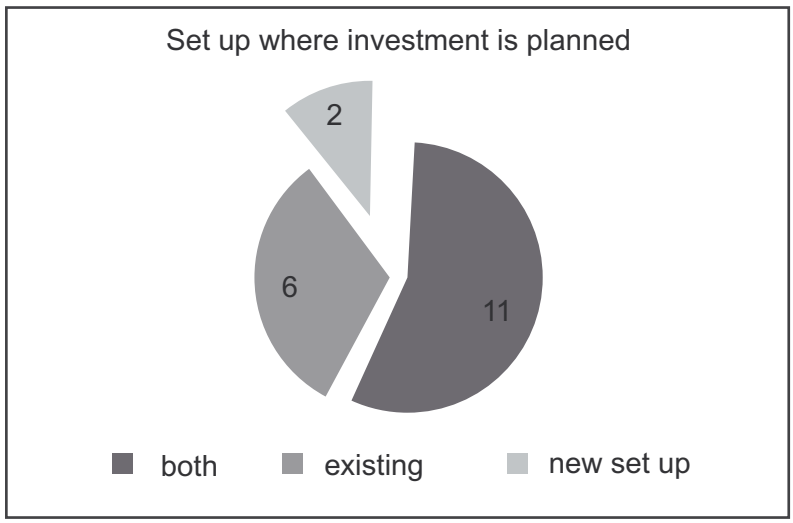

Figure 5: Set up where investment is planned

Following were some of the type of comments made on an elaboration about the planned investment with respect to the set up where investment is planned:

The suggestion in the existing set up was with the intention of upgradation of the set up and renewal of systems which is considered necessary in today's world. Further, it was mentioned that the upgraded version could be rolled out to the new setups. Moreover, the investment in the existing setup could give a proof of concept which could then be rolled out to the new setups.

Another reason why an existing set up was suggested was that once a hospital is functional, a cost-benefit analysis can be easily conducted.

However, it is ideal in a green field setting as the technology is easy to trickle down.

There was thus a mixed opinion regarding the suggestion regarding the setup where investment would be suggested.

The stages when the respondents would want to invest in the technology are as shown in Figure 6:

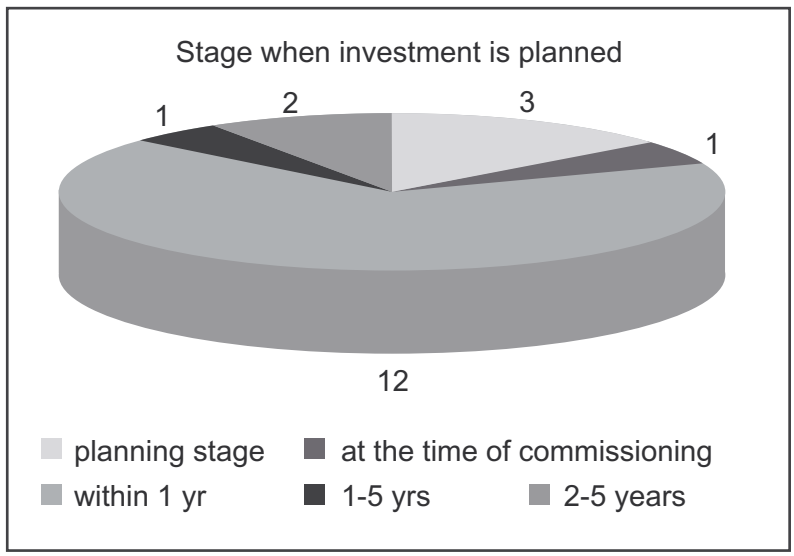

Figure 6: Stage when investment is planned

The segmentation based on the views about potential barriers during adoption of EMRs resulted in grouping the respondents into two clusters as shown in figure 7.

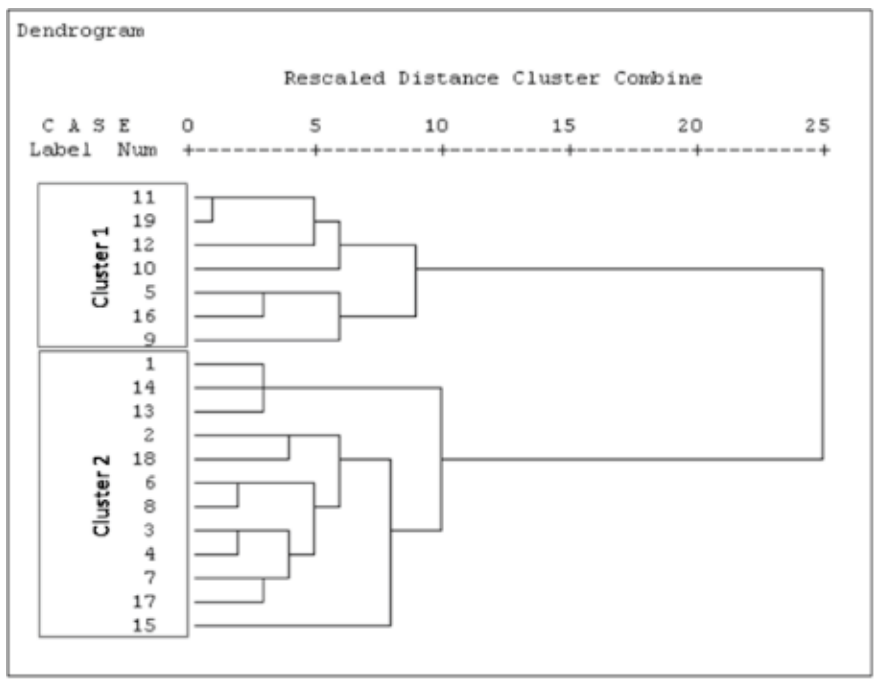

Figure 7: Dendrogram with respect to barriers during adoption (Hospitals)

The numerical values relating to the scale of agreement used in the study were translated to give the following characteristics of the clusters. as follows:

Cluster 1 rated cost, “skepticism about vendor support” and “integration with multiple information systems is a challenge” as the potential barriers during adoption of the EMRs. The cluster was neutral or in moderate disagreement to the remaining barriers. However, cluster 2 strongly agreed to “integration with multiple information systems is a challenge as a potential barrier. This cluster moderately agreed to “doctors will not accept it”, “reliability of the system is under question” and “use of the system may equate to confidentiality issues & patient privacy” as potential barriers. It was neutral about “willingness to invest” as a potential barrier. The remaining barriers were not considered as potential barriers.

This analysis gave the cluster to which each respondent belonged to & the characteristics of a particular cluster. Therefore, if respondent(s) agree to adopt EMRs, then the barriers which may come up can be predicted based on this analysis. Moreover, one can be prepared with a way to tackle the potential barriers which may arise.

Recommendations:

The 3 hospitals that were not aware of EMRs but expressed their interest to know more about the tool should be contacted to enlighten them about the benefits of the tool. They may realize the benefits and become potential adopters of EMRs.

All hospitals in the study are interested in investing in this technology and most of them would wish to invest in their new setups and also in the existing ones for the purpose of upgradation. Moreover, 4 hospitals in particular explicitly expressed interest in the systems and should be the ones who should be contacted on a priority basis as compared to the remaining.

Cost was observed to be a barrier and therefore measures of cost reduction should be followed so that the cost of EMRs can decrease. This may in turn lead to greater acceptability among healthcare providers.

Conclusion:

EMRs are the tools to drive clinical transformation. Greenfield hospitals have several inherent benefits. Taking advantage of these, an association can be built up with them which may lead them to adopt EMRs. This study identified organizations interested in the adoption of EMRs with a view to ascertain the perceptions about EMRs. The study involved a thorough search of greenfield hospitals followed by understanding their perceptions about adoption of EMRs. These views may help generate potential leads who may be willing to implement EMRs in their respective organizations.

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Major Breakthroughs that will revolutionize Healthcare

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Far from wishful thinking, these breakthroughs represent well-developed, well-researched and perhaps most important, well-funded technologies that will make medicine more effective, less expensive and more tailored to individual patients. They're going to change the way hospitals provide care to their patients and how they do business. New and emerging technology will dramatically improve outcomes, save money, reduce readmission rates, help hospitals recruit and retain physicians, build organization's reputation, and more.

Forget flying cars, cities crisscrossed with moving sidewalks, and unisex body suits made of silver lamé. Instead, get ready for an explosion in smart medical devices, infection-fighting nanotechnology, virtual biopsies and colonoscopies, bionic organs, and operating rooms that could serve as a backdrop for a science fiction movie.

Smart medicine

These days it seems everything is smart. There's the ubiquitous smartphone, of course. But soon there will also be smart bandages that monitor vital signs, smart prescription bottles that remind the patient when to take a pill, and smart pedometers that count the patient's steps and, like smart little tattletales, send the results to the physical therapist. But perhaps the best example of smart technology is the smart Operation room.

Remote surgery

Already surgeons use robots by proxy to remove prostates, perform hysterectomies, ablate thyroid glands and open blocked arteries. Doing robotic surgery lets surgeons be more precise, make smaller incisions and it takes a load off their feet. Rather than stand for hours over an operating table, surgeons performing robotic surgery sit at a video-arcade-like console, where their hands and feet drive robotic arms, just a few feet away from the patient.

However, the next frontier of robotic surgery will see surgeons operating on patients hundreds, even thousands of miles away, This means a world-class surgeon in Pune could perform a complex heart surgery on a patient in Munich. Surgeons will soon use robots on battlefields or military ships to perform remote surgery.

Nanomedicine

Nanotechnology itself is not new—it's already being used to make sports equipment lighter and to make computer chips faster. Drugs that use nanoparticles to deliver toxins directly to tumors, minimizing damage to healthy tissue, are now in trials. Nanotechnology could make imaging tools work better and more safely. Gold nanoparticles can be used to detect early stage Alzheimer's. Infection control is another area where nanotechnology shows promise.

Genome-based medicine: Your code is about to be cracked.

Now that scientists can sequence the human genome, one day everyone's genome will be sequenced. Doctors will then use our mapped genome not only for diagnosis, but also for prognosis — to see what diseases we're set up to get.

Wireless medicine

Healthcare organizations are already using wireless technology to remotely monitor patients and transmit large imaging files. But the devices will soon be much smaller, more convenient, and have a higher sampling rate. One emerging wireless technology is the smart or wireless bandage. Patients simply peel off the backing and stick it on their skin like a nicotine replacement patch. The disposable medical device has a processor to monitor vital signs, which are transmitted to a processing service.

Artificial medicine

Heart, liver, lung, pancreas, bladder, and ovary: Scientists continue to pursue advances in artificial organs. The artificial pancreas would help diabetics control their disease, as it reacts to changing glucose levels and delivers the right amount of insulin at the right time. It builds on two already-approved devices—the insulin pump and the continuous glucose monitor (CGM). But unlike an open-loop system in which the patient is responsible for testing, reading data, and taking corrective action, the automatic closed-loop pancreas would use a control algorithm to read and interpret the information from the device and respond by dispensing insulin when needed.

The device would be particularly helpful at times when patients are most at risk, such as when they are sleeping and more likely to miss a CGM alarm. In such a case, the system would automatically intervene.

Gadgets Galore

A number of inventions, gadgets, toys, and smartphone apps could change the way we diagnose illness, improve safety, and communicate with patients. Here are just a few that caught my attention.

Nanotech-enabled sensors could someday sniff out cancer. Researchers have mapped the odor profile of certain skin cancers and are working to create a small electronic nose that can sense the airborne chemical pattern of skin cancer and other odors.

Researchers are working on a **gel that spurs the growth of nerve cells**. The gel, engineered with nanotechnology, fills the space between existing cells and encourages new ones to grow. This process could be used to regrow lost or damaged spinal cord and brain cells.

Smart pedometers wirelessly report data to physicians or physical therapists who can check it against patient's daily step-count goals.

Radio-frequency tags keep track of surgical sponges and other items that might be left behind when a patient is sewn up. One model identifies and counts items before and after each case and can determine exactly what items are missing. The system comes with a wand to scan the room (and the patient, if necessary) to help locate missing items.

An iPhone app called the **iStethoscope** can record heart sounds and e-mail them to physicians anywhere in the world. Another app called **PatientKeeper** allows physicians to access patients' electronic medical records, including lab and test results, medication lists, and clinical notes.

CONCLUSION

Breaking the conventional models: the coming years will see a great out-of-the-box thinking by the strategists in the field of healthcare, beginning with the way healthcare is delivered. In developing a sustainable capacity to endure uncertainty, healthcare providers and their patients are embarking on a journey towards a higher-performing care delivery mechanism with a myriad of benefits for all stakeholders. In high-paced Asia, the decade to come will be a very interesting one to follow. Clearly, as the market develops, there will also be money to be made for manufacturers and vendors of healthcare products. There will be dramatic changes to come over the next decade, as the uptake and reliance on e-health expands.

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HEALTHCARE – FREE HOME DELIVERY

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INTRODUCTION

Home health care is defined as rendering predominantly medically-related services to patients in a home setting rather than in a medical facility. Basically, the home care practitioner will help patients increase their ability to tend to their everyday needs at home. Home health care1 may include skilled nursing in addition to speech, occupational and physical therapy. In many cases, it includes assistance with cooking and other household chores. It also includes monitoring the patient's prescriptions.

HEALTHCARE DELIVERY AT HOME

Home care is an essential—and historically an under-appreciated piece of the healthcare puzzle. Rapid advances in healthcare technology and the economics of healthcare delivery are creating unprecedented opportunities for more healthcare services to be delivered in the comfort of patients' homes. As the healthcare community is coming to understand, not only does home healthcare reduce the overall cost of healthcare, it also improves the quality of life of the patients and their families.

To curb the rising health expenditure and improve patient outcomes in United States, the Center for Medicare and Medicaid Services (CMS) Readmission Reduction Program—an important part of the Affordable Care Act that went into effect on Oct. 1, 2012—introduced financial penalties for hospitals with excessive readmissions.2 Some of the top reasons for hospital readmissions include:

- Patients not fully understanding what's wrong with them
- Patients being confused over which medications to take and when
- Hospitals not providing patients or doctors with important information or test results
- Patients not scheduling follow-up appointments with their doctor
- Family members lacking proper knowledge to provide adequate care
-

Focusing on home health care presents an obvious solution. A study by the Alliance for Home Health Quality and Innovation took historical data to forecast potential savings of $10.3 billion over ten years (2014-2023) by reducing regional hospital readmissions through the use of home health as the first line to handle post-acute care episodes.3

A key element is the application of technology. Here are four areas in which technology is making a real difference in home healthcare:

1. **Improved medical team communication and coordination**

   Patients are often treated by more than one medical/health professional in the course of their care, and technology is enabling real-time team communication as never before. This could mean giving a home nurse the ability to pull up the patient's entire record on multiple windows, simultaneously, on her tablet during a visit, or giving the home team a portal through which to communicate with the overseeing physician to provide alerts on changes in the patient's condition.

2. **Improved communication with the patient**

   Everyone benefits from having an informed patient. Today, technology makes it possible for home care professionals to check real-time drug interaction updates, or to share videos with their patients teaching them about the protocols for new treatments – in the language of their choice. Patients today can link up in telemedicine consults with their doctors and nurses and obtain instant responses to in-home situations, often avoiding costly doctor visits and hospitalizations.

3. **Shift from "fee-for-service" treatment to holistic Accountable Care Organization model**

   When patients can stay home, hospital beds and personnel can focus on the most acute cases. Indeed, studies performed by The Joint Commission in 2011 show that patients prefer to receive healthcare services in the comfort and dignity of their own homes. By integrating healthcare into daily life, instead of limiting contact with the medical system to a few office visits or hospitalizations, the dynamic of treatment changes to emphasize self-management.

4. **Increased efficiency and competitiveness for even the smallest home health agencies**

   Web-based softwares are now available to help agencies work more efficiently and effectively than ever, there are also affordable choices for agencies of all sizes. With the 2014 deadline for agencies to adopt electronic medical records (EMRs) fast approaching, the jump into the 21st Century can be pain-free if agencies invest the time on the front end to conduct a thorough software demo, including clinicians in the field as well as administrative staff in the back office, to find the option that is best for them.

With the availability of cutting-edge models in care coordination, prescription management, disease management, and behavioural education for patients, technology providers are helping home health agencies incorporate innovative and cost-effective approaches to deliver high quality, patient-centered4 and well-coordinated care across the health care delivery system. Patient outcomes are improving and overall health expenditure can decrease as a result.

CONCLUSION

Home health care clinicians seek to provide high quality, safe care in ways that honour patient autonomy and accommodate the individual characteristics of each patient's home and family. Falls, declining functional abilities, pressure ulcers and non-healing wounds, and adverse events related to medication administration all have the potential to result in unplanned hospital admissions. Such hospitalizations undermine the achievement of important home health care goals: keeping patients at home and promoting optimal well-being. Nevertheless, the unique characteristics of home health care may make it difficult to use—or necessary to alter—interventions that have been shown to be effective in other settings. Therefore, research on effective practices, conducted in home health care settings, is necessary to support excellent and evidence-based care.

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Clinical Trials in Ayurvedic Drugs

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Introduction:

Clinical trial in Ayurvedic drugs is the need of the time. There is news in the media that clinical trials are going to be mandatory for herbal drugs.[1] Some experts opine that good clinical practice is not practical in Ayurveda.[2] This article covers the approach one can think of while conducting clinical trials in Ayurvedic drugs. The article also covers the scope and limitations of this concept.

Background:

Ayurveda is ancient medical science. Some of the Ayurvedic texts date back to 1000 BC.[3] The diagnostic tools and treatments mentioned in these texts were based on observations at that time. Though there are references of different scientific symposiums[4] in Ayurvedic texts, the methods of modern science were not applied to Ayurvedic concepts, drugs and diagnostic techniques.

The problem:

Today it is difficult to be sure about the effect of Ayurvedic medicines as documentary proof is lacking in terms of clinical trials in Ayurvedic drugs. There are demands from people to 'create solid clinical trial data to convince international community about efficacy of Ayurvedic drugs'.[5] One finds numerous claims about Ayurvedic medicine in Ayurvedic texts. A rational mind cannot accept the claims as some of the claims seem tall. At the same time a scientific mind cannot reject all the claims as some of the remedies seem logical. There is possibility of these drugs acting on their target but the explanation is not available in scientific language which today's world understands. Hence, this problem remains unsolved and one cannot make any statement with authenticity.

The solution:

Clinical trials in Ayurvedic drugs seems a palpable solution to this problem. Randomized, double blinded, controlled clinical trial is considered as the gold standard of clinical research.[6] This approach is the ideal approach to solve the problem. Some of the other designs also can be adopted. Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH) had come up with GCP guidelines for Ayurveda, Sidhha and Uniani drugs.[7]

The approach:

Reverse Pharmacology' approach is one of the best known approaches to solve this problem. Dr. Ashok D B Vaidya has coined this word and has worked in this field. In this approach, the medicines (Ayurvedic) which seem to work in clinic are tested in laboratory as opposed to classical pharmacology where drugs are tested in lab first and then in clinics.

There is one more approach which is called as 'Black Box design'. Today the need is, drug trials that fulfil the objective criteria. One of the challenges in terms of Ayurvedic drugs is difficulty in standardization as they are

group of different chemicals. So trials could be conducted with drugs as they are (Black Box design) to confirm efficacy. Then one can go further to find out mechanism of efficacy.

Opportunities:

BAMS doctors have opportunity to be a part of these kinds of research studies where they would be contributing to the body of science while being connected to the roots of Indian medicine. There is dearth of Clinical Research Organizations (CROs) for conducting clinical trials of Ayurveda, Siddha & Unani (ASU) drugs.[8] Taking education in the field of clinical research would take BAMS doctors one step ahead in the direction of solving the issue.

It is said that 'A good science is a good business',[9][10] which is true about this approach as well. People would be surely ready to pay the extra amount for drugs if they would get quality drugs. The importance of quality AYUSH drugs is being stressed by government as well.[11] Doctors would be more prone to prescribe those drugs which are tested by clinical trials.

Challenges:

The cost is one of biggest bottlenecks for clinical trials in Ayurvdic drugs. Ayurvedic drug manufacturer's drug association has shown inability to conduct clinical trials due to cost issues.[12] Hence funding for these clinical trials is one of the bottlenecks.

The issue is not limited to Ayurvedic drugs but also to Ayurvedic concepts and beliefs. There can be numerous epidemiological studies which would benefit both Ayurvedic and Allopathic doctors. For example – 'Does eating sore food (Eg. Curd etc) worsen the bad throat?', 'Does eating chilly / other hot foods induces backache?' etc.[13] Searching the answers to such question would surely be interesting and it would be a contribution to science and people.

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13. From a discussion with Dr. Abhay Bang

Prevention is the Need of Hour

Mr. Amol Naikawadi

Joint Managing Director
Indus Health Plus

"Prevention - Imbibe it as a habit, practice it as religion"

Prevention from lifestyle induced illnesses like heart ailments, diabetes, high blood pressure, stroke and cancers is attainable and we all are well acquainted with the might of preventive health in our lives.

Our responsibility as individuals

To propagate it amongst masses, first we ourselves have to mark its attendance in our lives. Leading by example is not only more effective but also sends across the message more strongly. Creating awareness and guidance on how early detection of disease helps in better prognosis and financial savings and spreading this cause across the society is the need of hour.

Corporate initiatives

Organisations and corporate sectors bear a massive responsibility in generating awareness in the positive role of preventive health care and boosting the performance of workers, in turn resulting in an improved country economy as a whole. Corporate management and organisation heads should support and encourage the cause of preventive healthcare practices among their employees as companies cannot afford their frequent absence due to sickness and absenteeism caused by non communicable diseases. Though little late but several firms now are offering preventive health care facilities to their employees as part of their corporate social responsibility and to boost their profits.

The Associated Chambers of Commerce and Industry of India (ASSOCHAM) report on Preventive Healthcare and its impact on Corporate Sector states that "One rupee spent on prevention saves Rs. I33 in absenteeism costs and Rs. 6.62 in healthcare costs."

Affecting economy

Preventive as opposed to curative health care has become the preferred option in most developed countries. India has just begun its baby steps and is still at a very early stage. Today the non communicable diseases (NCDs), especially cardiovascular, diabetes mellitus, cancer, stroke and chronic lung ailments have emerged as major public health concerns. The premature morbidity and mortality in the most productive phase of an individual's life is posing a serious challenge to Indian society and its economy. It is estimated that in 2005 NCDs accounted for 5,466,000 (53%) of all deaths (10,362,000) in India. Another report of the National Commission on Macroeconomics and Health, Ministry of Health & Family Welfare, Govt. of India (2005) suggests that that prevention of diseases, particularly non-communicable diseases that are expensive to treat, is the most cost-effective strategy for a country facing scarce resources.

In broad figures, every minute 4 people die of a heart attack, 2 due to diabetes complications and one each from stroke and cancer in India. 17.3 million (30%) of total global deaths occur because of cardiovascular diseases. Such troubling statistics hugely influence a country's growth and development strategies.

Government schemes

Of lately, several active measures are being taken in promoting preventive health by state and central government. Under the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) scheme, a total of 17,019,476 people have been screened for diabetes and hypertension in 100 districts across 21 states of the country. According to union health ministry officials, out of the total number of people screened, 7.18 per cent were found to have suspected diabetes and 6.57 per cent had hypertension.

Initiating such processes will surely help in raising the masses that are below poverty line as huge amounts are incurred by the individual to undergo curative treatment for detrimental NCDs.

Tax benefit

Another lucrative rationale to take upon preventive health check now is the additional tax benefit that it gives. As per the Finance Act 2012, one can get tax benefit (maximum of Rs. 5,000) for the expenses incurred on preventive health checkups. This benefit can be taken under section 80D. The expenses may be incurred for self, spouse, dependent children or parents. This is over and above the limit of 1 lakh tax exemption.

Goal - Create awareness in our own spaces

A recent Indian Credit Rating Agency (ICRA) report emphasises on the role of prevention especially to battle chronic diseases rampant in India, and so there is immense scope for work here. There is a need for an awakening in the thought process of Indians altogether. When “prevention” will become a culture in India, the impact will be phenomenal. Planned surgeries can be undertaken instead of last minute critical operations. The mortality rate due to lifestyle diseases can also be minimised. Overall the losses can be reduced and it would help in the effective use of India's Gross Domestic Product (GDP).

Hence, preventive healthcare is the need of hour and there is tremendous scope of the same in India and at the global level. Indus Health Plus is constantly trying to reach more and more people to make them aware of their present health status through preventive health checkups. So far, more than 8 million people were reached and 3, 65, 000 checkups were conducted in 29 cities and 9 states in association with 55 delivery partner hospitals and diagnostic centres.

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"A quasi experimental study to assess the effectiveness of Ventilator Associated Pneumonia bundle for prevention of Ventilator Associated Pneumonia among mechanically ventilated patients admitted in the intensive care unit of selected hospital"

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INTRODUCTION

Ventilator Associated Pneumonia (VAP) is one of a critical nosocomial infection occurring in intensive care unit which is a serious illness with substantial morbidity and mortality, and increases costs of hospital care. According to the Centers for Disease Control and Prevention, the average incidences of nosocomial infections are 5 to 10%, but maybe up to 28% in ICU. Surgical Site infection or Wound infection contributes up to 22%, Pneumonia up to 15%, Blood Stream infections up to 14% and Upper respiratory tract infection up to 32%.

Nurses play a significant role in reducing VAP among mechanically ventilated patients.

The protocols to prevent Nosocomial infections include basic nursing care procedures. Practices like performing hand washing and demonstrating aseptic techniques during procedures can prevent major mishaps.

OBJECTIVES

1. Assess the respiratory status of patients belonging to control and experimental group using VAP score checklist.
2. Assess the respiratory status of patients belonging to experimental group using VAP checklist after the implementation of VAP bundle and in control group without implementation of VAP bundle.
3. Compare the respiratory status of patients belonging to experimental group with control group using VAP score checklist after implementation of VAP bundle.

METHODOLOGY

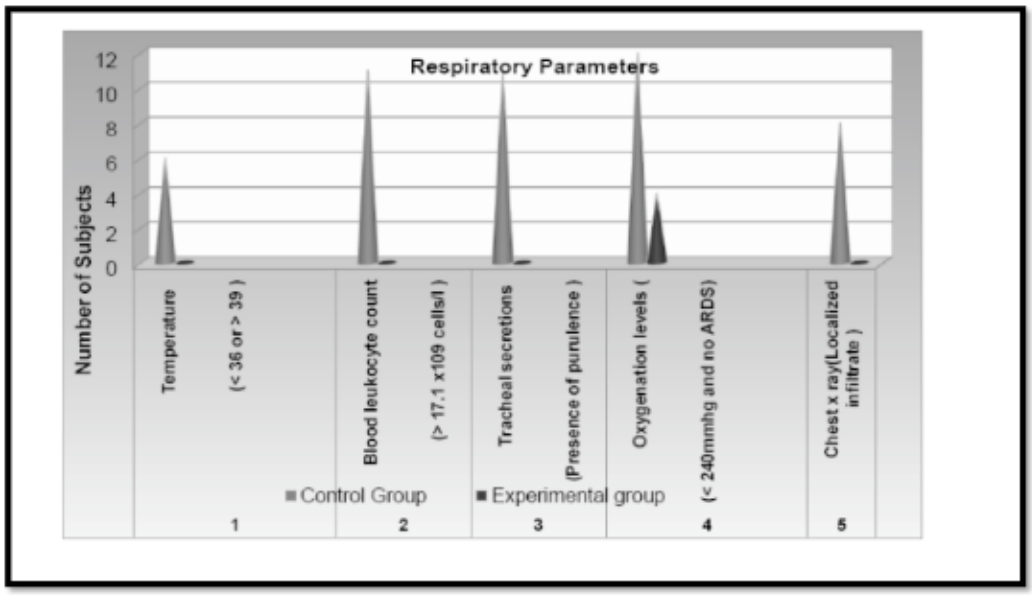
- Research Approach - Quasi experimental.
- Research design - Two group pretest posttest.
- Sampling technique - Non probability convenient sampling.
- Sample size - 40

MAJOR FINDINGS OF THE STUDY

- Majority of subjects in the control group 10(50%) and 6(30%) showed temperature levels between > 38.5 - < 38.9 and < 36 or > 39 which are indicators for presence of infection. Majority of subjects in the experimental group 19(95%) showed temperature levels between > 36.1 and < 38.4 which is normal.
- Majority of subjects in the control group 11(55%) showed blood leukocyte levels that range between > 17.1 x109cells/l which are absolute indicators for presence of infection. Majority of subjects in the

experimental group 10(50%) and 10(50%) showed blood leukocyte levels that range between >4.0 and <11.0 x109 cells/l, which is normal, and 11.1 - < 17.0 x109 cells/l, which shows risk for infection.

- Majority of subjects in the control group 11(55%) showed purulent secretions in the trachea, which indicates presence of colonization of bacteria and infection. Majority of subjects in the experimental group 11(55%) showed presence of tracheal secretions but they are non-purulent, and 9(45%) show absent or minimal tracheal secretions.
- Majority of subjects in the control group 12(60%) showed oxygenation levels of < 240mmhg and no ARDS, which is suggestive of reduced ventilation perfusion exchange. Majority of subjects in the experimental group 16(80%) showed oxygenation levels of > 240mmhg or ARDS.
- Majority of subjects in the control group 12(60%) showed a diffuse or patchy infiltrate in the chest x-ray and 8(40%) showed localized infiltration. Majority of subjects in the experimental group 15 (75%) showed a diffuse or patchy infiltrate.



N=40

Particulars		Mean	SD	df	SED	Calculated t	Level of significance
Control Group	Pretest	2.70	0.66	38	0.301	-13.29	Not Significant
	Posttest	6.70	1.17				
Experimental Group	Pretest	3.10	0.55	38	0.202	4.2019	Significant
	Posttest	2.25	0.72				

Significant 0.05level $'t'_{38}$(table value): 1.686 't': test of significance

Therefore null hypothesis is rejected. Hence, it proves that the VAP bundle is effective to prevent ventilator associated pneumonia.

CONCLUSION

The findings of the study proved the effectiveness of VAP bundle in preventing VAP and thus improving the outcome of health among mechanically ventilated patients. The components of the bundle are purely intervened by nurses and this proves that nurses can contribute a major role in prevention of VAP, or reducing the incidence of VAP. It directly reduces the mortality and morbidity of patients who are mechanically ventilated. These findings will help to solve the problems related to VAP in a broader perspective.

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'EFFECT OF STRUCTURED TEACHING PROGRAMME (STP) ON NEONATAL RESUSCITATION AMONG STAFF NURSES WORKING IN LABOUR ROOM IN SELECTED HOSPITALS OF PUNE CITY.

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Introduction

Birth of a newborn is a special moment of joy with lot of expectations. However the first minute after birth is full of anxious moments and rapid physiological adjustments. Most newborn go through the transition successfully; 10% however, may need varying degree of assistance. Opportunity lost to provide needed assistance at this time would be a crucial impediment for saving these babies. Many babies who survive birth asphyxia go on to suffer from cerebral palsy, learning difficulties and other disabilities. Neonatal mortality world over is around 37 % under- five mortality in India it is around 50%.Which means that the proportion of U-5 deaths by neonatal causes is disproportionately high in India.Current neonatal mortality rate in India is 37/1000 live births accounting for almost two thirds of the infant deaths. Thus, the first days and weeks of life are critical for the future health and survival of a child.

Keeping this in mind, The Government of India has developed a program on "Basic Newborn Care and Resuscitation" which address these causes in a large way. This program is believed to make a significant contribution in bringing down neonatal mortality and other serious long term morbidities like neuro-developmental sequelae in survivors of asphyxiated newborn babies. In JannaniSurakshaYojnaProject, a large number of health professionals attending to births, are trained in the simple procedure of resuscitation and basic new born care.

"Navjaat Shishu Suraksha Karyakram" a new programme on Basic Newborn Care and Resuscitation, launched by the Ministry of Health and Family Welfare, Government of India to address important interventions of care at birth i.e. Prevention of Hypothermia, Prevention of Infection, Early initiation of Breast feeding and Basic Newborn Resuscitation. The implementation of this programme will help staff nurses to gain more knowledge and skills that they are empowered to prevent a significant number of newborn deaths and ensure newborn survival.

Problem statement

Effect of Structured Teaching Programme (STP) on neonatal resuscitation among staff nurses working in labour room in selected hospitals of Pune city.

Objectives of the study

- To assess the knowledge and skills on neonatal resuscitation among staff nurses.
- To introduce the Structured Teaching Programme for two days.
- To assess the knowledge and skills on neonatal resuscitation among staff nurses after introducing Structured Teaching Programme.
- To compare pre and posttest knowledge and skills on neonatal resuscitation among staff nurses.

Research methodology

- Research Approach: Quasi Experimental
- Research Design: One group pre test post test design
- Sampling Technique: Non- Probability Purposive Sampling
- Sample Size- 80 Staff nurses

Hypothesis

H01: There will not be significant difference in the Pre-test and Post-test knowledge scores on Neonatal Resuscitation among staff nurses working in labour room.

H02: There will not be significant difference in the Pre-test and Post-test skill scores on Neonatal Resuscitation among staff nurses working in labour room.

H1: There will be significant difference in the Pre-test and Post-test knowledge scores on Neonatal Resuscitation among staff nurses working in labour room.

H2: There will be significant difference in the Pre-test and Post-test skill scores on Neonatal Resuscitation among staff nurses working in labour room.

Neonatal resuscitation training

Intervention: The curriculum design was based upon the Indian Academy of Pediatrics Neonatal Resuscitation First Golden Minute (IAP NRP FGM) project and it was designed in accordance to the allotted time and resources provided by IAP state coordinators. A total of 8 hours: three hours of lecture, one hour of demonstration, and four hours of hands-on, scenario driven sessions using manikins to address components of NRP techniques, and availability of Oxygen was allotted. The sessions were conducted in two days (23rd November 2012 and 4th February of 2013). In one day training sessions were conducted for 40 participants. The course was taught by facilitators, who have successfully completed the District instructor Basic Newborn Care and Resuscitation Program (BNCRP) provider part 1 course of the Indian Academy of Pediatric - Latter-Day Saint Charities (IAP-LDSC) Neonatal resuscitation program (Training of trainers (TOT) on neonatal resuscitation (one pediatrician and Four Nursing lecturers).

Evaluation: A survey tool was developed to assess pre-/post educational intervention impact. The survey consisted of 20 queries covering two domains: knowledge, and performance. This tool was developed by IAP members.

Major findings of the study

In Pre test (Written evaluation), majority (70%) of staff nurses had good knowledge (Score ≥ 67%) and few 3.8% of staff nurses had poor knowledge (score <40%).

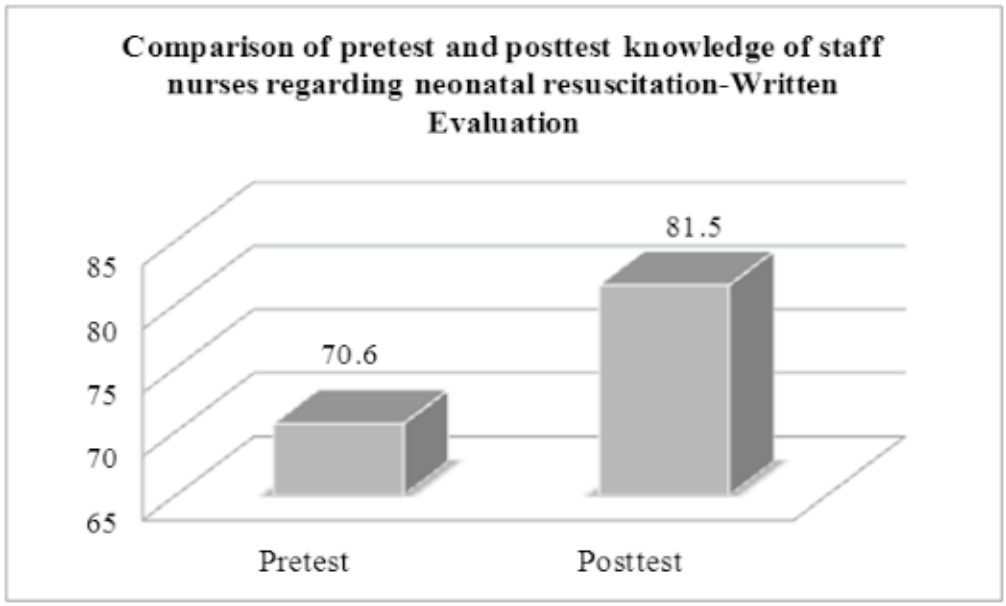
In Pre test (Performance evaluation), majority (81.3%) of staff nurses had poor knowledge (score <40%) and few 1.3 % of them had good knowledge (score above or 67%).

In Post test (Written evaluation), majority (88.8%) of the staff nurses had good knowledge (score above or 67%) and 1.3% of staff nurses had poor knowledge (score <40%).

In Post test (Performance evaluation), all staff nurses had good knowledge regarding neonatal resuscitation

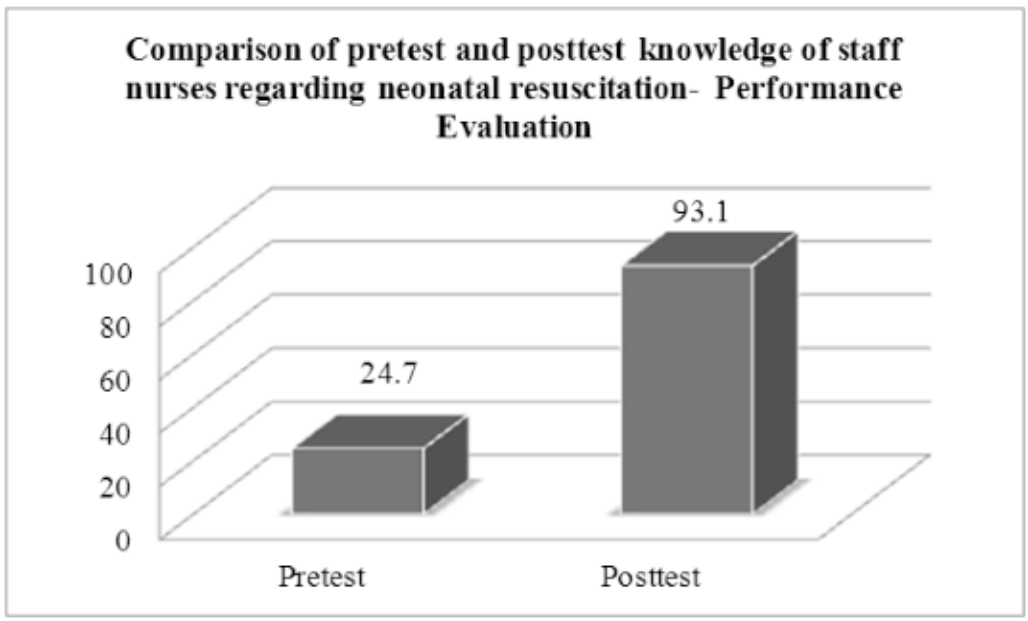
N= 80

Test	Mean	SD	t	df	p-value
Pretest	70.625	14.1729	5.317	79	0.000
Posttest	81.5	13.9484	35.9	79	0.000



Comparison of knowledge regarding Neonatal Resuscitation, (written evaluation)

The't' value was 5.3 at 79 degrees of freedom. The corresponding P- value (0.000) is less than table value 0.05. The null hypothesis is rejected. This proves that Structured Teaching Programme was significantly effective in improving the knowledge of staff nurses regarding neonatal resuscitation



Comparison of knowledge and skills regarding Neonatal Resuscitation, (Performance evaluation):

The't' value was 35.9 at 79 degrees of freedom (df). The corresponding P- value (0.000) is less than table value 0.05. Hence null hypothesis is rejected. This shows that structured teaching program was significantly effective in improving the skills of staff nurses regarding neonatal resuscitation.

Conclusion

Current neonatal mortality rate in India is 37/1000 live births accounting for almost two thirds of the infant deaths. Thus, the first days and weeks of life are critical for the future health and survival of a child.Keeping this in mind, The Government of India with the help of Indian academy of Pediatrics (IAP) has developed a program on “Basic Newborn Care and Resuscitation” which would address these causes in a large way. This program is believed to have a significant contribution in bringing down neonatal mortality and other serious long term morbidities like neuro-developmental sequelae in survivors of asphyxiated newborn babies.The implementation of this programme will certainly help staff nurses to gain more knowledge and skills and they will be empowered to prevent a significant number of newborn deaths and ensure newborn survival and achieve safe childhood.

Recommendations

- A study can be conducted to assess the knowledge and attitude of the staff nurses regarding Neonatal Resuscitation.
- A Study can be conducted to assess the neonatal mortality rate after the structured teaching programme on neonatal resuscitation to the health care professionals.

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Formula 1 and Healthcare: Yes, it can be compared!!

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The hospitals are undergoing a tough time controlling the occurrence of nosocomial infections in their set-up. When a patient undergoes surgery, major or minor, he is the most immuno-compramised patient during his stay in the hospital after the surgery. There are chances that he may get the nosocomial disease in the O.T, before and during the operation or after the operation in the recovery rooms, critical units or wards. **Not only this, the patient can also be the victim of these infections during his transport from or to the O.T.**

Every patient's body responds in a different manner to the operation procedure and also to the healing process after the surgery. It entirely depends on factors like immunity, will power, healing power and also the hospital sanitation. It is very important for the hospital staff to have minimalistic exposure of the patient to other patients, general wards, relatives and hospital staff working in different departments meeting different patients. All these carry infection involuntarily.

Immediately after the surgery, the patient might undergo complications like excessive bleeding, increase or decrease in blood pressure, loss of body fluids, shock, stroke, internal bleeding, organ failure, swelling etc. When the patient starts responding well after the surgery his condition starts stabilizing. This is the time when the person is transferred to the recovery rooms or critical units and kept under observation.

Even though the patient is stable, he is still a big concern and slight change in any bodily functions can make him critical again. This change can originate from the hospital itself. The hospitals today are having a tough time finding the source and cause of the Hospital Acquired Infections (HAI's). Several researches reveal that the major cause is the method and mode of transport of patients from OT to Recovery Rooms and Critical Units. But this cause can be avoided. The transport from the post-op room to the recovery room has to carefully and quickly done.

While transportation a patient can go through following structures of a hospital: Patient lifts, staircase, corridors, various departments etc. and finally reach recovery rooms. During travel, staff members like doctors, nurses, helping staff, biomedical waste collectors, sample collectors, surgeons, microbiologists etc might pass by. Also the stretcher on which he is carried, the saline bottle stands, the hands of staff carrying him, talking in the corridors etc might carry some dormant micro-organisms which might aggravate if they get such a potent host just undergone surgery.

After studying the various research articles on the internet, it is observed that countries in Europe and the American continent have taken the time and motion study in the hospitals very seriously. This is completely an administrative issue and a need of quality assurance policies in any hospital.

If the morbidity is reduced, that is, if the patient coming in the hospital gets discharged without being treated for the disease which he has not come in with, it is a great success of the patient care a hospital is doing and reflects the quality of treatment given. (KEN R. CATCHPOLE PhD*, 2007)

An alternative for reducing this lead time of patient transfer to recovery room is to train the staff team carrying that patient to recovery room. The fastest people effectively practicing a similar thing in the field of Formula-1

racing are the Pit-stop members of the race.

Definition: pit stop or pits An area of track separated from the start/finish straight by a wall, where the cars are brought for new tyres and fuel during the race, or for set-up changes in practice, each stopping at their respective pit garages.

A pit-stop team has around 20 members. All are assigned a specific function. Every member practices for his particular work atleast 12000 times to achieve the desired timing of maximum 10seconds to operate on the car taking a pit-stop. The car taking a pit-stop can be compared to a patient undergone surgery and ready to move to recovery room. The procedure on the car takes hardly 7-8 sec and the car is back on the race track. This is similar to the person being transferred to the recovery room quickly in minimum lead time and back in the race of fast recovery and less stay in hospital post surgery.

Also the pit-stop is designed in such a way that it takes minimum time for the car to get back on the race track without any interference. Same can be the case with the patient transport. The location of the recovery rooms can be such that they are nearest to the O.T complex and farthest from the rest of the patient accommodation rooms. Also the corridors from which transport occurs can be short and allocated only for transport of these patients. Entry for other staff members excluding the staff carrying the patient should be restricted. All these time and motion factors will definitely help in reduction of nosocomial infection transfer in the hospital and hence an immense customer satisfaction.

The European and the American countries have implemented this pit-stop strategy in their hospitals and have come up with amazing results in decrease of nosocomial infections.

They have actually met the F1 team members and taken training from them to closely understand their way of working. These people deal with an inanimate object-The F1 cars. But hospitals deal directly with “LIFE”, it is a serious concern that these cars are given more importance than a life of a person. Formula 1 implements pits stop as a preventive measure to ensure no racer fails, hurts or quits in pain. Hospitals have an add-on, they can implement this as a preventive as well as curative measure. The patient undergoes a surgery because he is already in pain, now our job is to cure him and eliminate chances that create more pain. Hence protocols for time and motion practices must be devised and followed. Small studies and frequent monitoring of such data must be done in order to assure good quality patient treatment. We as administrators are just focusing on Hierarchy, Promotions, Delegation of work and getting over with the job. But one has to ask the question HOW?? The only answer for this is Training!! Training!! Training!! It's a onetime investment but can create goodwill for the rest of the life of the Healthcare service.

On realising the seriousness of such immunocompramised patient transport, this topic needs to be studied and researched. In depth knowledge of both the fields that is healthcare and the Formula1 should be taken. Small changes in the design and processes in the hospitals can create wonders. It is an idea to be promoted, extreme domains to be linked, changes to be experienced and knowledge to be shared. We have to trace such other inter-related fields. This is a clear example that healthcare delivery systems can be benefited from many such diverse, scientific, administrative fields. We, as Healthcare Administrators need to have an eye of an eagle to work for this prestigious field of HEALTHCARE. **Every patient is our precious customer. Serving him and in-turn our society is the race to win!!**

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Changing trend in Healthcare and Hospitalization in Oman

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Geographical Description of Oman

The Sultanate of Oman is located in the southeastern corner of the Arabian Peninsula. It borders the Kingdom of Saudi Arabia and the United Arab Emirates in the West, the Republic of Yemen in the South, the Strait of Hormuz in the North and the Arabian See in the East.

OMAN CREATES SUCCESSFUL HEALTH SYSTEM

1. Oman close to universal access to health care within a generation
2. Oman invested consistently in national health system
3. Under-five mortality drops 94% in 30 years
4. Oman health plan aims to provide health services to 100% of the population – universal coverage.

Since 1970 the Ministry of Health (MoH) in Sultanate of Oman has been ensuring the availability of promotive, preventive, curative and rehabilitative health services for all population aiming to improve the health status of the Omani citizens and residents along the following lines:

1. Provision of comprehensive health services in the field of public health and personal health considering primary health care as the basic entry point for health care.
2. Assuring equity in the distribution of health services and burden of health expenditure to cover all ages, social and economic levels of the community.
3. Fulfill the health and health related needs and expectations of the people.
4. Continuation and promotion of all aspects of health development through community participation and inter-sectoral cooperation.

Current Development of Health Services and Health Care in Oman

Since 1970, the emphasis was always given to the importance of health in social and economic development.

The first five-year plan (1976-1980) of the MoH aimed mainly to reconstruct and develop already available health resources as well as those established after 1970. The second (1981-1985) and third (1986-1990) five-year plans were concerned mainly to increase the coverage of health services and at the same time improve the quality of care. In addition, expansion of health services had continued.

Oman's health care system operates at three levels:

MoH makes primary medical care available through health centers, extended health centers and local/wilayat hospitals. The regional referral hospitals mainly provide secondary medical care, while the national referral hospitals (The Royal Hospital, Khoula Hospital, Al Nahdha Hospital and Ibn Sina Hospital) mostly provide tertiary medical care.

MoH undertakes drug control through its Directorate General of Pharmaceutical Affairs Drug Control (DGPA & DC) and drug procurement and distribution through its Directorate General of Stores (DGS). MoH is responsible for the registration of drug manufacturers and products, control of narcotics and other controlled drugs, issuance of the necessary customs clearances for import and re-export of drugs. As per the new drug policy, MoH shoulders the responsibility for price control in the retail market.MoH is responsible for private pharmacy licensing, and the licensing of pharmacists and asst. pharmacists to be employed in private pharmacies. It monitors the functioning of the private pharmacies.

The Ministry of Health also has a well-established national health information system and cancer registry, and publishes a health survey report annually. Additionally, there are active continuing medical education programs in all hospitals, and specialty groups regularly organize local and international conferences and workshops. The private health sector is also playing an increasingly important role in providing advanced health services, under the supervision of the Ministry of Health.

As part of the developmental strategy of the country, medical education gets an important attention and has been one of the country's key pillars of growth since 1970. Higher education in Oman was initiated in 1986 with the establishment of the Sultan Qaboos University, with the college of Medicine as one of its seven constituent colleges. Prior to the establishment of the Sultan Qaboos University, students had to travel to neighboring Arab countries or overseas to pursue their higher education studies.

In order to fill the need towards the increasing demand for medical education in Oman, Oman Medical College was established in 2001 as the first private medical college in the country. This college offers a 7-year integrated program leading to the Doctor of Medicine degree.

Both these medical colleges follow the new trends in medical education, based on problem solving instead of the traditional method that depends on memorization Besides these educational institutions, the Omani government also established the Oman Medical Specialty Board (OMSB) in 1994, which is the highest supervising body of all postgraduate medical training programs in Oman . As a result of the development of education and initiation of these medical schools, medical research has shown considerable growth over the past decade. The College of Medicine and Sultan Qaboos University Hospital are the main centers of medical research.

Changing trend in Health Care:

The Ministry of Health has hosted in May 2012, the ***'Quality-Care, Sustained-Health'***, an International Scientific Conference on Health System 2050, in the Sultanate of Oman. Prime objective is developing better and high quality health care system in the Sultanate of Oman. The main purpose of this conference is to

evaluate the health services in the Sultanate, review the achievements of the past years, address the current challenges and obstacles encountered and seek solutions in tackling them, with a view to providing high quality health care to the citizens of the Sultanate of Oman.

SWOT Analysis of Oman Pharmaceuticals and Healthcare Industry

Strengths:

- Strong demand for patented innovative drugs, driven by Oman's traditional wealth, especially among the sizeable expatriate community.
- Ministry of Health has offered financial as well as technical support to the private sector in the healthcare/pharmaceutical sector.
- The free trade agreement (FTA) with the US is improving the intellectual property regime in the country.
- Stringent product registration norms for importing drugs, which provides protection to local manufactures.
- Import driven market, with a small domestic manufacturing sector.
- Strong local cooperation within the Gulf Cooperation Council (GCC).

Weakness

- Strict pricing regime.
- Larger-scale imports hampered by strict controls.

Opportunities

- Increase in healthcare budget to boost public health programmes.
- Rising local, as well as regional, demand for diabetes and other lifestyle treatments.
- Rising number of private pharmacies to improve exposure to over the counter (OTC)
- Formation of common GCC market to facilitate trade across the region.

Threats

- Relatively small population size offering limited prospects for growth.
- Any drop in oil prices could lead to a reduction in government industry investment which could slow pharmaceutical and healthcare market growth.

Overall Pharmaceutical/Surgical Market Forecast(2010 -2015)

Oman has one of the smallest drug markets by value in the GCC. By 2015; the drug market value is forecast to reach OMR 186mn. The pharmaceutical market will remain highly reliant on imports, although generic products are expected to feature more prominently in the coming years.

The prescription drug market can be expected to moderate over the medium terms, growing at a CAGR (Compound Annual Growth Rate) of 6.25% OMR 159mn by 2015.Patented drug spending in Oman is expected to raise OMR 139mn by 2015 equating to CAGR 5.26%.OTC drug market stood at OMR 16mn in 2010 and forecast to reach OMR 27mn by 2015 equating to CAGR 11.4%.

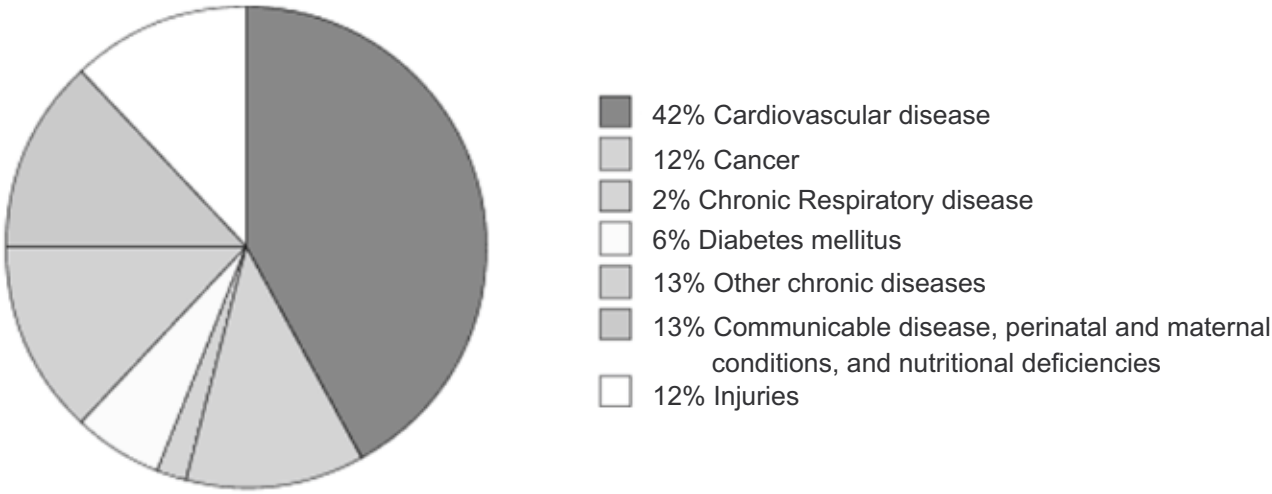
Omani market for medical devices to stand at US$91 million in 2011, the market as a whole is expected to grow at a healthy CAGR of 12.3% per annum to reach US$162 million by 2016.

Diseases in Oman.

A recent national health survey indicated a growing problem of lifestyle related illnesses in the country. According to the report 11.6% of the adult population suffers from diabetes. The prevalence of hypertension and

obesity are reported to be around 33% and 19% respectively. Smoking is responsible for 21% of death due to heart disease, 30% of death due to cancer and 87% due to lung cancer.

Rising tide of chronic diseases in Oman



Integrated Health Care Management System

Country is planning for an integrated health management system, beginning at the primary health care level. An integrated health care system at this level should cater to the needs of the institution, which may be a health center or an extended health center (polyclinic).

- Stage One—Computerized medical records system, laboratory, and radiology records and automated reporting system that can be accessed by a health care provider from anywhere in the health care facility
- Stage Two—Networking of this system with the secondary health care facility (regional referral hospital), so that any patient admitted, treated, and discharged from a regional hospital can be followed up at a primary health care facility, with the primary care physician having on access to the detailed patient record from the regional hospital.

Knowledge of prevention and care of sports injuries among physical educators and voluntary coaches in Madhya Pradesh secondary schools

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"Sports Injury may be defined as event altering the ability of a participant to compete or practice in the usual manner."

The purpose of the present study was to evaluate current sports injury knowledge of practicing physical educators and voluntary coaches to identify their weaknesses in relation to preventing sports injuries. Modified Inventory Knowledge in Physical Education Questionnaire was circulated to the Physical education teachers, non-physical education teachers and voluntary coaches.

The total of 305 subjects (Male= 209 & Female = 96) subjects from 165 Secondary Schools of Madhya Pradesh State were administered to test the questionnaire. The subjects were instructed to answer the item analysis consisting of checking of degree of difficulty index of discrimination values, and an evaluation of non- function foils were computed for each item. Degree of difficulty, indicating difficulty of each item was determined by providing number of correct responses to an item by total number of subjects taking the tests . Item difficulties between 10% and 90% were considered for the study. An index of discrimination was used to assess power of each item, and to discriminate between subjects who were and were not knowledgeable about sport injuries. Index of discrimination values above 0.20 were considered for the study.

Since, the purpose of the study was to compare the mean scores on the revised Modified Inventory of Recent Knowledge in Physical Education for practicing physical education teacher, non-physical education teacher and coaches as well as to identify the gender differences between the subjects, a 2x 3 analysis of variance

(ANOVA) with two independent group factors was computed to analyze the data. A regression analysis approach was chosen to analyze data because of the expected unequal numbers of subjects was used.

Further Scheffe multiple comparison method was followed to determine the existing difference of knowledge of sport injuries among the physical educators, on-physical educators designated as coaches and voluntary coaches.

Introduction

Sports injuries are one of the biggest obstacle in promoting sport and physical activities at all school levels. **"Sports injury may be defined as event altering the ability of a participant to compete or practice in the usual manner."**

There is no doubt that in various sports (Basketball, Soccer, Badminton, Handball, Track & Field etc) chances existed for an individual to be injured during physical education classes as well as in the inter school or other tournaments. (Mortez & Grana,1979; Culpepper; 1986, Singer,1986).

For a coach who is dedicated to health and physical welfare of student's athletes always puts the welfare of the players first and avoids risking injuries in the desire to win games. In addition a coach should have a thorough knowledge of the sport. He/She should possess knowledge of first aid and medical aspects of sports,

Kinesiology of the movement, drug abuse, diet and nutrition.(Keller & Forsythe,1984)

There existed a need to investigate whether physical educators and coaches were qualified in the sports compared with other states since very few study had been made done in this region hence the researcher has chosen the present study.

In the present study a questionnaire was made to evaluate current sport injury knowledge of practicing physical educators and voluntary coaches and to identify their weaknesses in relation to preventing a sports injury.

Procedure and methods

The total of 305 subjects (Male =209 & Female = 96) subjects from 165 were administered to test the questionnaire. Subjects for this study were voluntary male and female physical education teachers, Non-Physical Education Teacher designated as coaches and voluntary coaches in secondary schools of Indore, Bhopal, Ujjain, Gwalior and Jabalpur districts of Madhya Pradesh were randomly selected for the study.

The modified inventory knowledge in physical education (Rome & Robertson, 1986) originally was used to evaluate current knowledge of teachers and athletic trainers.

The questionnaire consisted of 20 objective type questions. **The modified inventory knowledge in physical education** questionnaire consisting of 20 objective type questions based on anatomy, physiology, diet and nutrition, preventing and treating sports injuries.

Before administering the test researcher clearly explained all the instructions acquainted with the subject. They were also instructed that their responses will be kept secret during the entire study.

Results

Data from 305 subjects (male = 209 & Female = 96) was analyzed. Mean ages and mean years of coaching for physical educators and coaches are presented in Table-1.

Table- 1

Backgrounds of physical educators / coaches

Groups	Age	Years of coaching
Physical Education Teachers Combined Means	Men=31.5+_6.9 Women=27.6+_3.9 29.6	Men = 9.3+_ 6.5 Women= 6.1 +_ 3.7 7.7
Non- P.E Teachers As Coaches Combined Means	Men=30.1+_6.9 Women=31.8+7.6 30.9	Men=4.6+_ 4.3 Women=5.4+_6.4 5.0
Voluntary Coaches Combined Means	Men=27.0+_5.2 Women=25.8+_6.4 26.4	Men=4.5+_3.1 Women=3.8+_3.5 4.1

Men N= 209 Women N = 96

The score obtained for each subject was converted into a percentile score for further computations, and allowing for easier presentation of data. Means and standard deviations of knowledge test scores, converted into percentile scores for all subjects, are presented in Table-2.

Table- 2

Descriptive statistics for test scores on the revised modified inventory of recent knowledge in physical education

Groups	Physical Education Teachers	Non – Physical Education Teachers As Coaches	Voluntary Coaches	Row Mean
Male	Mean = 69.2 S.D = 10.5 N = 70	Mean =55.9 S.D = 12.0 N = 68	Mean =53.6 S.D = 15.3 N = 71	59.5
Female	Mean = 66.1 S.D =10.0 n = 50	Mean = 57.9 S.D= 13.6 n = 21	Mean = 53.7 S.D = 14.3 n = 25	61.6
Column Mean	68.0	56.3	53.6	

An item analysis was also utilized to evaluate usefulness of item on the test, including difficulty rating, index discrimination and non-functioning foils. Mean scores for difficulty rating and index of discrimination values were 0.58 and 0.45. A summary of item analysis of the data is presented in Table-3.

Table-3

Item analysis data for the revised modified inventory of recent knowledge in physical education test scores

Items	Difficulty Rating	Index of Discrimination	Items	Difficulty Rating	Index of Discrimination
1	0.73	0.41	11	0.46	0.53
2	0.86	0.36	12	0.46	0.67
3	0.43	0.20	13	0.70	0.43
4	0.30	0.30	14	0.76	0.70
5	0.53	0.56	15	0.83	0.47
6	0.50	0.20	16	0.23	0.40
7	0.63	0.23	17	0.73	0.37
8	0.40	0.23	18	0.73	0.67
9	0.56	0.46	19	0.63	0.27
10	0.73	0.57	20	0.53	0.87

After item analysis procedures, all 20 items of the revised inventory were accepted for further investigation.

A 2 x 3 analysis of variance with two independent group factors were computed for knowledge test scores. The regression analysis approach was chosen to analyze data because of the expected unequal numbers of the subjects obtained in each of the 6 cells in the 2 x 3 factorial design. To determine differences accurately among physical education teachers, non – physical education teachers designated as coaches and voluntary coaches in knowledge of sports injuries, the effect coding method with unequal N s with a regression analysis was utilized. The effect coding method also allowed for necessary Scheffe multiple comparisons after significant main effect was obtained. A summary of these findings is presented in Table – 4.

Table – 4

2 X 3 ANOVA comparing knowledge test scores for men and women in each of the three backgrounds of the coaches

Source	Proportion of Explained Variability	SS	df	MS	F	p
A –Type of Coaches	0.20	12188.10	2	6094.00	37.04	<.05
B – Sex	.01	3.40	1	3.40	.02	>.05
AB	.01	338.90	2	169.4	1.03	>.05
Error	.78	49188.90	299	164.50		
Total	1.00	61719.30	304	203.00		

The F ratio for the interaction analysis did not show any significant interaction, indicating no significant ($p>0.05$) differential effect between the sex and type of backgrounds of subjects. The ANOVA also revealed no significant ($p>0.05$) differences for the two – level (sex) main effect in knowledge test score. However, a significant ($p < 0.05$) main effect was found for the three types of backgrounds of the coaches.

The proportions of the explained variability for this three – levels main effect was0.20. The Scheffe multiple comparison method was followed to determine the existing physical education teachers designated as coaches, and voluntary coaches, as presented in Table – 5.

Table – 5

SCHEFFE analysis to determine mean difference for main effect for

Types of Coaches	N	Mean	Mean Comparison	Mean Difference	F	P
Physical Education Teachers (T1)	120	68.00	T1 - T2	11.65	42.16	< .05
Non -Physical Education Teachers as Coaches (T2)	89	56.35	T2 – T3	2.50	1.75	> .05
Voluntary Coaches(T3)	96	53.85	T1 – T3	14.15	18.19	< .05

Mean knowledge test scores for physical education teachers was significantly ($p>0.05$) higher than means for non-physical education teachers designated as coaches and voluntary coaches. In addition, mean knowledge test scores for non- physical education teachers and voluntary coaches were not significantly ($p>0.05$) different from each other.

Discussions

It is revealed from the findings that the most difficult item for subjects was found to be item number 15 and 16 that was concerned with basic anatomy of the body. In fact local colleges of education which provide training for physical education majors offer little materials in anatomy and physiology..

Courses on scientific basis of sports sciences and sports medicine are also limited. The item analysis of the data showed that of all the subjects , none of subjects (N= 305) were able to score 70% or higher on the inventory. Male Physical education teachers, obtained score of 53.6%. Non – Physical education teachers designated as coaches and voluntary coaches in Madhya Pradesh secondary schools scored significantly ($p<0.05$) less than trained physical education teachers in the knowledge test.

Recommendations

To protect better secondary school students from getting unnecessary injuries in all the sports programs, it must be the responsibility of every school physical education program to prepare coaches adequately in the prevention and management of sports injuries. The researcher suggests the following guidelines.

1. A sports first- aid course is suggested and should be organized by the local education departments with other professional organizations.
2. Local school authorities should provide refresher and updated training courses for practicing physical educators and coaches.
3. The local education department should carefully consider certification of school sports coaches.

Conclusions

1. Practicing non-physical education teachers and voluntary coaches in Madhya Pradesh secondary schools generally lacked current knowledge in preventing and managing sports injuries.
2. A significant number of these coaches needed updating current knowledge in the field.
3. Results of this study may increase awareness of general knowledge of practicing coaches in the various states.
4. Similar studies may be carried out in all the states to test the knowledge of preventing and managing sports injuries.

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A Study of the approach of clinical practitioners towards the problems of Catheter Associated Urinary Tract Infections in Patients, owing to the ability of the pathogens to form biofilm on catheters

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MSc. Microbiology

Introduction

Catheter-associated biofilm are usually extremely difficult to eradicate by antimicrobial treatment, as the bacteria originating from any residual biofilm will often re-infect the urinary tract. This fact was proved by the tests performed on the Urinary Tract Infections (UTI) isolates viz. E.coli, Klebsiella spp., Pseudomonas spp., and Proteus mirabilis. obtained from the urine samples of patients, where the organisms sensitive to tested antibiotics were found resistant to the same antibiotics, when tested on their biofilm. The organisms not only resisted these antibiotics but thrived.

Objectives

1. To study the concept of catheterization, from the point of view of doctors and nurse of a hospital

2. To increase awareness in patients and doctors, of the possible risks of prolonged use of the same catheter highlighting the risks of biofilm formation on the catheters.

Methods

In this study, the records of past two years of pathology department of a leading hospital Lokmanya Hospital Chinchwad, Pune, was obtained (600+ patients per year in each ICU and in CCU)

Results

It showed a case of about 1 nosocomial UTI in about 100 in-patients admitted in Intensive Care Unit and Cardiac Care Unit. This is a good score, given the norms of WHO.

These records, however reveal the statistical significance (with 95 % CI) by Z test of proportions that the proportion of catheterized patients developing a nosocomial UTI is almost 3 to 5times more than the uncatheterized patients who develop UTI

All medical practitioners unanimously agreed that precautions viz. frequent changing of catheters, strict aseptic technique, monitoring of hygiene are of most importance to avoid further distress to the hospitalized patient.

Commercial availability of antimicrobial impregnated catheters being a an attractive prospective for prevention of such CAUTI , its cost and affordability makes it a viable option for only 44% of the staff, while 36 % feel it may be used in case of life threatening condition.

20% staffs feel safe a hygienic condition followed by efficient sterile catheterization technique is enough to tackle this problem of CAUTI attributed to biofilm.

Conclusion

It can thus be safely concluded that the medical professionals do hold a moral responsibility for patient health and care. It is their determination and dedication coupled with scientific reasoning that can provide patients with health solutions and save the patients from distress.

As a further step in patient monitoring a suggestion can be made that the medical practitioners follow CDC norms and their guidelines prescribed for recognizing device associated infection and documenting it in their prescribed format.

Situation analysis of newborn care delivery in Jaisalmer District of Rajasthan

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Introduction

All over the world, even after putting extensive efforts in maternal and child health programs, under-five child mortality is still a major challenge in front of the health providers. Neonatal mortality is constantly accounting significant high amount of more than one third of total under-five child mortality and around 4 million newborns are dying each year across the globe. Most of them are because of preventable causes. India shares around quarter of these neonatal deaths.

Objective

Study was aimed to assess the overall situation of child health interventions happening in district Jaisalmer.

Methodology

In depth interview were conducted of program managers, health providers and secondary quantitative data was obtained from District Hospital (DH) Jaisalmer to understand patterns of morbidity and mortality in admitted children at the hospital for purpose. To understand the health seeking behaviour of the community in relation to new born care, post natal clients were being interviewed. Five facilities as one district hospital, two CHCs and two PHCs were selected to assess the readiness to render new born care in the study. In facility assessment, an attempt was made to ascertain facility readiness to ensure essential newborn care.

Results

It was found that only DH was capable enough to provide essential newborn care. DH has well equipped Facility Bases Newborn Care (FBNC) and sufficient infrastructure to provide secondary level care to sick newborn. Other than DH, only CHC Pokran has dedicated Newborn Corner and has basic amenities to ensure essential new born care. All the facilities have significant shortage of staff and Medical Officers and also has huge training load to ensure quality services. Trainings of the staff and their placement at the place where they can perform, is an issue of great concern. Supply and availability of drugs and equipments is a serious issue at each facility.

Almost half of the neonates are admitted in DH Jaisalmer with infective conditions as Acute Respiratory Infections, pneumonias, diarrhoeal diseases. In other causes of morbidity Jaundice has share of 10%, Asphyxias 9%, Low Birth Weight 4% and Preterm are 3%. While rest 23 % are admitted with other causes including pyrexia of unknown origin, etc. In mortality around three forth of total mortality are because of asphyxia and septic conditions and ARI, pneumonia, diarrhoeal diseases etc. Pre term including LBW shares part of around 16 %and congenital anomalies 8 % and rest of deaths due to other causes.

Conclusions

Primary requirement to address the problem of neonatal death is to accept it as a problem. Along with the infrastructure strengthening it equally important to place trained staff and ensured supply of drugs, equipments and other requirements to provide quality care in order to gain faith of community and ensure new born care at both facility and community level.

Quality assessment and anti-obesity activity of Stellaria media (Linn.) Vill

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Introduction

Obesity is recognized as a social problem, associated with serious health risks and increased mortality. Numerous trials have been conducted to find and develop new anti-obesity drugs through herbal sources to minimize side effects associated with the present anti-obesity drugs.

Objectives

The present study was designed to evaluate the quality control parameters, quantitative phytochemical analysis (total phenolic, total flavonoids and total saponin content), and the anti-obesity effect of lyophilized juice (LJ) of Stellaria media (Linn.) Vill. by employing in vitro and in vivo models.

Methods

In vitro studies were performed to evaluate the inhibitory activity of LJ on pancreatic amylase and lipase. The in vivo pancreatic lipase activity was evaluated by measurement of plasma triacylglycerol levels after oral administration of lipid emulsion to swiss albino mice. Furthermore, the anti-obesity effect of LJ was assessed at two doses, 400 mg/kg and 900 mg/kg body weight in mice fed a high-fat-diet with or without LJ for 6 weeks.

Results

The LJ inhibited pancreatic amylase and lipase activity in vitro and elevated plasma triacylglycerol level in mice. LJ suppressed the increase in body weight, retroperitoneal adipose tissue, liver weights and serum parameters viz., total cholesterol, total triglyceride, LDL-cholesterol level at the dose of 900 mg/kg body weight of the mice fed with high fat diet. The total phenolic, flavonoid and saponin contents were found to be 0.26 mg/g, 1.4 mg/g and 1.19 µg/g respectively of LJ.

Conclusion

The anti-obesity effects of LJ in high-fat-diet fed mice may be partly mediated through delaying the intestinal absorption of dietary fat and carbohydrate by inhibiting digestive enzymes.

Is Pharm. D. The Entry Ticket For Clinical Pharmacists In Indian Healthcare Setup?

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Introduction

All over the world, Pharmacy education has now grown itself into a clinical profession, while in India the Pharmacy programme has concentrated more on industrial aspects.

Objectives

Study aims to focus on need of changes in the Pharmacy education in India and proposed role of clinical Pharmacist in the healthcare system. An attempt has been made to identify the need of Pharm. D. programme, which is going to produce Clinical Pharmacists as per the requirement of our healthcare sector.

Methods

A thorough research of available literature was carried out and the recently introduced Pharm. D. programme in India was critically compared with the programme of other countries. With the background information of Pharm. D. programme in India and abroad; the research work aims at capturing current perceptions of Pharm. D. students and highlights some important facts regarding clinical exposure, knowledge of diagnosis & therapeutics and other concerns.

Results

Out of 130 respondents to the survey, a total of 109(83.83%) respondents said that the curriculum of Pharm. D. in India is justifiable for healthcare sector and 97 (74.61%) said that the internship of Pharm. D. students meets the requirements of the hospitals/Clinical Research Organisation. 24 responses (18.46%) opposed the opinion of providing the prescribing rights to the Pharm. D. graduates and 69(37.69%) voiced that such a right, if provided, will not be accepted by the doctor community.

Conclusions

If the Pharm. D. programme can create the necessary pharmacy practice structure in hospital setup and develop a practice-based academic unit bridging the pharmacy practice with academia, there is a great hope for the recognition of Clinical Pharmacists in India .

Keywords : Pharm.D., India, Therapeutics, Clinical Pharmacists, Academia.

A study to ascertain the cost difference for disposable and non disposable surgical drapes

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Introduction

In hospital, each day healthcare professionals are confronted with the difficult task of working safely within the hospital environment. Surgical Site Infections is one of those risks. The surgical drape is a medical device. The study is to compare the cost of the process of disposable and non-disposable surgical drape conducted at one of the multispecialty hospitals in Pune. This study will act as an enabler for the surgeons, administrators to take the decisions regarding the usage of the disposable and non-disposable surgical drape.

Objectives

1) To carry out the comparative cost analysis of a disposable and non-disposable surgical drape.

2) To conduct the cost analysis of the process through which non-disposable and disposable surgical drape is used in the operation theaters.

Methods

Type of study: Cross sectional, Observational and Analytical.

Place of study: Multispecialty Hospital in Pune.(Bed strength – 450 beds)

Study design: Economic evaluation: Costing of single disposable and non-disposable surgical drape.

Retrospective: Record based. Records of the Workforce salary, Cost of the equipments, maintenance cost ,Furniture, electricity consumption cost, Water consumption cost, Cost of material consumption, Stationary cost, housekeeping cost, Waste disposal cost of respective departments were studied.

Prospective: Various routes and the procedures for both the disposable and non-disposable surgical drapes were studied. Series of interactive sessions with the hospital staff were conducted.

Workload calculation: The total workload of respective departments ,The workload for the respected type of surgical drapes in these departments were calculated.

Target population: Doctors, The heads of departments, Professionals of various categories and Class IV workers working in respected departments of the hospital.

Tools of data collection:

The tools of data collection were:1. Daily Records of the various departments related to the surgical drapes 2. Finance records,3. Maintaince records, 4. Workload records, 5. Interviews with the head of departments, staff, and multipurpose workers.

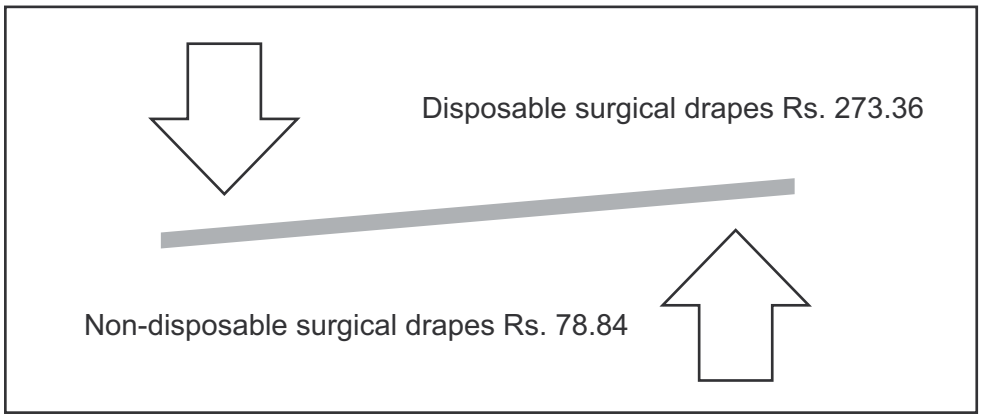
Results

After all the calculations, the cost for the non-disposable surgical drapes in each department is as follows:

Linen Department	Laundry Department	CSSD	OT	Opportunity Cost	Total Cost
Rs. 13.734	Rs. 6.84	Rs. 9.946		Rs. 48.32	Rs. 78.84

The cost for the disposable surgical drapes is as follows

Cost of the disposable surgical drape	Purchase & Medical supply dept.	O.T. & O.T. Store	B.M.W. Department	Total cost
Rs. 269.89	Rs. 1.75		Rs. 1.72	Rs. 273.36



Conclusion

Apart from this there are various factors which influence the decision to use non-disposable or disposable surgical drapes. These factors are Infection control, ease of handling, cost effectiveness, absorbency, strikethrough, regulations, environmental costs, health and safety of staff.

It also depends on the type of surgeries performed, the policy of the hospital regarding the pricing of the surgeries, the methods of using the disposable drapes, whether the biomedical disposable waste facility is in-house or outsourced.

Adherence to 29 best practices improves hospital's efficiency by 150%

A simple checklist - similar to the ones a pilot uses before take off - has been found to improve adherence to essential childbirth care practices at a hospital in south India by 150%.

The checklist that includes 29 best practices was tested by the Harvard School of Public Health (HSPH) and the World Health Organization (WHO) at a hospital in Karnataka. From 2008 to 2010, HSPH and WHO developed the WHO Safe Childbirth Checklist program to address the major causes of maternal and neonatal mortality.

The checklist prompted health workers to remember to complete proven practices such as hand washing, infection management, postpartum bleeding assessment and breastfeeding within an hour after birth.

The results reveal that the number of essential practices performed by the hospital workers increased from an average of 10 of 29 at baseline to 25 of 29 after implementing the checklist.

Nearly 300,000 maternal deaths, 3.1 million newborn deaths and 1.2 million intrapartum-related stillbirths take place in countries like India each year - the vast majority being preventable.

From 2008 to 2010, HSPH and WHO developed the WHO Safe Childbirth Checklist Programme and field tested it in 10 countries, mostly in Africa and south Asia.

Items on the 29-item checklist address the major causes of maternal deaths (hemorrhage, infection, obstructed labor, and hypertensive disease), intrapartum-related stillbirths, and neonatal deaths (complications of premature birth, infection, and birth asphyxia).

Researchers observed the childbirth practices of healthcare workers during 499 birth events - the period from admission to discharge - prior to introducing the checklist to establish a baseline, and then compared the results with 795 birth events after implementing the checklist.

The checklist programme actively prompted healthcare workers to remember to complete proven practices. The study appears in the May 16th edition of PLoS ONE.

This is a significant step forward because it provides hope that use of this simple, low-cost tool can help birth attendants better adhere to universally accepted standards in childbirth care.

Promoting institutional delivery in order to facilitate skilled care by trained birth attendants is a major global strategy to improve the safety of childbirth. This approach has resulted in increasing numbers of births taking place in already overburdened (and often under-resourced) facilities. Without low-cost, simple and effective methods to improve quality of care in these facilities, health outcomes are not improving at the rate they should be.

The results of this study are the first evidence to suggest that the success researchers have seen with checklists in other health disciplines, for example in surgery, might also be applied to prevent avoidable childbirth-related deaths in low-income countries.

This study measured the way health workers care for women and newborns during childbirth, but was too small a study to measure the impact on complications or reducing deaths. Now, the researchers are conducting a largescale trial in more than 100 hospitals in north India to determine if the checklist programme can save the lives of mothers and newborns.

Allowed to sell in India for 14 years, Drug put on notice now

It's a drug that was introduced over 14 years ago, approved by the country's drug regulator. The same regulator has now put the manufacturers on notice, with the approval it gave having been questioned by a parliamentary committee.

Deanxit is an antidepressant marketed by a Danish company but banned in Denmark itself. Marketed mostly in small countries, it is a combination of Flupenthixol and Melitracen, the latter never approved in India. Deanxit has been reported to cause abnormal heart rhythms in combination with other drugs.

Earlier this month, the Drugs Controller General of India gave the company six months to establish the drug's safety and efficacy, failing which the drug could be banned. The DGCI had approved the drug in 1998.

The ultimatum follows last year's report of the Parliamentary Standing Committee on Health and Family Welfare, which slammed the DGCI for having given Deanxit "illegal" approval. Rule 30 (B) of the Drugs and Cosmetics Act says that a drug not approved in the country of its origin cannot be approved in India. Moreover, Melitracen, apart from having never been approved individually in India, is a little-known drug that it is not part of the course in any Medical School in the country.

In his January 10 order, DGCI Dr G N Singh cites several grounds, including the drug's banned status in the country of its origin and its absence in major markets such as the United States, Britain, Ireland, Canada, Japan and Australia. The issue of safety and efficacy of the FDC (fixed drug combination) is under examination in consultation with the experts committee. In view of concerns raised on the drug, it has been decided that the manufacturer of the drug shall be instructed to establish the safety and efficacy of the FDC of Flupenthixol+Melitracen tablets within six months, failing which the drug would be considered for being prohibited for manufacture and marketing in the country.

Drug experts call the order a "cover-up" for the DGCI's disregard for rules. It does not hold anybody responsible for the blatant violations that gave Deanxit its approval in the first place. It just tries to pass the blame on to the company whereas the fact of the matter is that they had no reply to the questions the parliamentary committee raised. It is astounding that a combination drug with a component like Melitracen, which does not appear in any pharmacology textbook, was approved.

The manner of the approval had been raised in a meeting of the Drug Technical Advisory Board on November 9, 2009, with a seven-member expert committee set up to look into the matter. The Committee met for the first time after 14 months but no concrete decision was taken until the strong observations came from the Parliamentary Committee. Health Ministry sources say more such drugs may come under the scanner.

The Parliamentary Standing Committee had observed that the Central Drugs and Standards Control Organisation had approved Deanxit in contravention of several rules. The DCGI's latest order does not mention that report but echoes it in its mention of the absence of the drug in developed markets.

DCGI should have gone into the reasons for not marketing the drug in major developed countries such as

United States, Britain, Ireland, Canada, Japan, Australia just to mention a few. United States alone accounts for half of the global drug market. It is strange that the manufacturer is concentrating on tiny markets in unregulated or poorly regulated developing countries like Aruba, Bangladesh, Cyprus, Jordan, Kenya, Myanmar, Pakistan, and Trinidad instead of countries with far more patients and profits.

During scrutiny by the standing committee, the Health Ministry could not provide documents for the approval, such as import permission or reports of the Mandatory Clinical Trials. All that was found was the file number (12-62.95-DC) and the date of approval (28-10-1998).

With Melitracen not individually approved, the combination drug should have undergone all phases of development trials (phases I, II and III) and tested separately for each approved indication for which its prescription is possible. The Ministry could not give details of the required trials for indications like Psychogenic Depression, Depressive Neuroses, Masked Depression and Psychosomatic Affections accompanied by anxiety and apathy, which are the conditions for which Deanxit was approved.

Clinical trials in India must be allowed but with strict vigil

India has over 16% of the world's population and a huge chunk of the global disease burden. But less than 2% of global clinical trials take place in the country. Is this good or bad? What is the shape of things to come?

The questions are triggering a polarizing discourse in the country. Much of the discussion pits 'growth' of the fledgling industry against what some perceive as the dangers of getting 'mired in the quicksand of evolving regulation'. Is this a gross over-simplification of complex issues?

436 lives were lost in the country last year during clinical trials of drugs has strengthened the case forbetter regulation of suchtrials in the country. The number of such deaths in 2011 was 438 while in 2010 it was 668. The cases of 2012 are 'under examination'. Only the final enquiry report will tell how many of those deaths were causally linked to the clinical trials. But concerns and criticism persist.

Stung by a hail of criticism, including from the Supreme Court, the Government has introduced new rules for clinical trials. But both health activists and the industry are calling for greater clarity in the new regulatory architecture.

So where do we go from here?

We all know that without clinical research, it is not possible to find newer and better medicines. We also know some of the reasons why big pharmaceutical companies are drawn to India: a technically competent workforce, patient availability and relatively low costs of conducting such research.

But India also has vast pools of illiteracy and poverty. Many of those volunteering for a clinical trial are not aware of their rights and ill-equipped to ascertain if the trial is following ethical guidelines.

Till date, a section of the clinical trials industry has been reluctant to acknowledge this basic fact and introspect on why and how risky practices have taken place in the past. Clinical trials need to continue. But there is no point pretending that there are no black sheep in the game, and that supervision has been lax.

The Supreme Court's stinging rebuke of the Central government for its failure to stop dodgy clinical trials appears to have had its intended effect. Hence, the new rules for clinical trials in the country. These rules, notified by the health ministry, say that “in case of an injury or death during the clinical trial to the subject of the clinical trial, the applicant shall provide complete medical management and compensation in the case oftrial related injury or death” in accordance with the rules that have been instituted. Now, all ethics committees which review clinical trials are also required to register with the licensing authority within a stipulated time period.

But on both counts, much more needs to be done to ensure that clinical trials undertaken in the country meet the highest ethical standards. This is key to India's ambitions of being a medical research hub.

“Neither the Drug Controller General of India nor the Ethics/Expert Committees have the competence to decide on the quantum of compensation. There should be an independent compensation tribunal just like Road Accident Tribunal manned by accountants, medical and legal experts and actuaries.

Registration of ethics committees is a step in the right direction as it has been a demand that health activists have been making for a while, but more needs to be done. There needs to be further mechanisms of accreditation and quality certification of ethics committees, and also more information in the public domain about ethics committees reviewing clinical trials, their composition and so on.

Pragmatism, profits and welfare of patients are not as implacably opposed to each other as they are sometimes made out to be. Effective regulation, which takes on board public concerns about safety of clinical trials, is actually a driver of growth, rather than a hindrance. In this globalised and interconnected world, nothing escapes scrutiny for too long. And it is in everyone's interest to ensure that mechanisms are put in place and regularly monitored to ensure the safety of those taking part in a clinical trial. Facts matter. Perceptions matter equally. So, more information in the public domain is a must.

Registration of Ethics Committee to approve clinical trials made mandatory now

In an attempt to make clinical trial approval procedures and monitoring mechanisms more accountable, the Centre has now made registration of Ethics Committee mandatory before it reviews and accords approval to a clinical trial protocol.

Amendments to the Drugs and Cosmetics Rules, 1954, make it mandatory that all Ethics Committees should be approved with the Licensing Authority before they accept any clinical trials for review, and all clinical trials would have to be registered at the Clinical Trials Registry of India before enrolling the first patient for the study.

The preliminary scrutiny of the applications will be done by a committee of officers of the Central Drugs Standard Control Organisation (CDSCO) who will ensure that it contains all the required administrative as well as technical information in proper manner as per the checklist. If the applications are not submitted in accordance with the format and the checklist, it will not be accepted by CDSCO for further examination.

The Ethics Committee will have to allow inspectors or officials authorised by the CDSCO to enter its premises to inspect any record, data or any document related to clinical trials and provide adequate replies to any query raised by the inspectors. The Committee will also have to inform in writing the Licensing Authority if there is any change in its membership.

If the Ethics Committee fails to comply with any of the conditions of registration, the Licensing Authority can after giving an opportunity to show cause, suspend or cancel its registration. The registration, unless suspended or cancelled earlier, shall be valid for three years.

Under the amended Rules, the Ethics Committee should comprise of medical, scientific, non-medical and non-scientific members, whose responsibility is to ensure the protection of the rights, safety and wellbeing of human subjects involved in a clinical trial and it shall be responsible for reviewing and approving the protocol, sustainability of the investigators, facilities, methods and adequacy of information to be used for obtaining and documenting informed consent of the study subjects and adequacy of confidentiality safeguards. The Committee should have seven members including a legal expert, a social scientist or a representative of a non-governmental organisation and a lay person from community.

The Ethics Committees will have to maintain a record for at least five years after the completion of the trial.

The annual status of each clinical trial, as to whether it is ongoing, completed or terminated, shall be submitted to the Licensing Authority and in case of termination, the details and reasons will also have to be informed.

In the case of any serious adverse event occurring to the clinical trial subjects during the trial, the Ethics Committee will inform the authorities within 10 days. In case of an injury to the subject, the applicant shall provide complete medical management and compensation.

Doctors from Madhya Pradesh charged for Foreign trip sponsored by Pharma

Nearly a dozen and half doctors charged with accepting foreign jaunt sponsored by pharmaceutical companies have pleaded before that Madhya Pradesh Medical Council (MPMC) that their trip was not sponsored. 16 doctors appeared before the ethics-cum-disciplinary committee of MPMC recently.

On directives of Medical council of India (MCI), the state medical council is investigating cases of alleged sponsored foreign trip by 16 doctors, most of them neurologists. They went to United Kingdom in May 2012, allegedly sponsored by Intas pharmaceutical limited. The complaint was registered by NGO Swasthya Adhikar Manch (SAM).

However, Doctors have taken defense that, the trip was not sponsored by a Pharma company and accordingly they have informed the MPMC committee in a written affidavit.

Travel itinerary of some 16 doctors and their family members was submitted by the complainant. The itinerary letterhead has a logo of Intas pharmaceutical and Zenith hospitality.

He said the doctors are in violation code of conduct of MCI regulations on professional conduct, etiquette and ethics. The act mentions a medical practitioner shall not receive any gift or travel facilities from a pharmaceutical company, he added.

Swasthya Adhikar Manch (SAM) have also asked the government to take action against the doctors under section 37 of Income Tax Act which prohibits medical practitioner in accepting freebies. SAM estimates Rs 13,22,550/- were spent on the weeklong trip to England and Scotland.

After the proceedings MPMC registrar said, "Intas and Zenith hospitality officials have again been issued summons for their absence. It would take a couple of hearings more to decide the matter.

Health Ministry notifies rules for granting permission, conducting inspections of clinical trials

The Central Health Ministry has tightened the norms for clinical trials by making it mandatory for companies to compensate patients who may suffer injury or death while participating in the trials even if they have not been caused by the drugs being tested.

So far, the compensation has been restricted only to cases where the medication being tested had caused either injury or death. The gazette notification, issued on 30 January, could potentially make clinical trials in India more expensive.

The developments are a part of reforms in clinical trials initiated after the Supreme Court's intervention to amend the Drugs and Cosmetics Act. Earlier this month, the Apex Court had directed the Health Ministry to monitor all clinical trials, revoking the powers of the Central Drugs Standard Control Organization.

In a drastic shift from the present scenario wherein only physical injuries are compensated for after establishing a direct connection with trial drugs, the notification states that in “the case of an injury occurring to the clinical trial subject, he or she shall be given free medical management as long as required”.

Crucially, if the drug being tested fails to improve a patient's condition or causes adverse effects, the company would be liable to compensate the patient. Similarly, companies would have to compensate for any harm suffered by a pregnant woman's child while she is participating in a clinical trial.

The new norms would be extended even to the so-called placebo-controlled trials.

Placebos, or “sugar pills”, are part of a standard clinical trial practice in which a few out of a group of patients who consent to being part of a trial don't receive the drug being tested, but are instead given a harmless pill. This is done to measure the effectiveness of a drug by comparing the condition of patients taking the therapy and those being administered the placebos, and to isolate improvement in a patient's condition to the drug being tested.

Given that the number of tested drugs that fail far exceeds the successful ones and most trials use a placebo, the number of patients who would be potentially compensated under the new rules will be much higher.

A senior government official said that the amount of compensation will be decided on a case-to-case basis by an independent expert committee constituted by the Drug Controller General of India (DGCI). Failure to pay up the compensation within the stipulated time may not only lead to suspension or cancellation of ongoing trials, but could also lead to a permanent ban on the pharma company and the clinical research organisation (CRO).

The new norms notified by the health ministry state that in the event of death or injury during the clinical trial, the doctor or the investigator must inform the pharma company, the CRO and the ethics committee within 24 hours. The pharma company and the CRO would have to submit a detailed report on the adverse event to the ethics committee within 10 days. This report would also be sent to the independent expert committee in the DCGI in cases of death. The ethics committee would communicate its opinion on compensation to the independent expert committee within 21 days of the adverse event. The expert panel, after examining the merits of the case,

would recommend the possible quantum of financial compensation to the drug regulator within 30 days of receiving the ethics committee report.

“Annual status report of each clinical trial as to whether it is ongoing, completed or terminated shall be submitted to the licensing authority and in case of termination of any clinical trial, the detailed reasons for the same shall be communicated,” the rules say.

The notification also stipulates the reporting of serious adverse events during the trials, rules for medical management of the injury during the trials and reporting about the compensation given to the victims.

It also lays down rules relating to the inspection of the premises of sponsors, including their employees, subsidiaries, their agents, contractors, sub-contractors and trial sites by the officers authorized by the CDSCO any time with or without prior notice. The officers will also have powers to search and seize any record, data, document, books, investigational drugs related to the trials.

“The licensing authority may also impose any additional conditions for issuance of permission in respect of specific clinical trials, if considered necessary regarding the objective, design, subject population, subject eligibility, assessments, conduct and treatment of such clinical trial,” the notification said.

CSIR in the future hopes to be able to test new molecules to make tuberculosis drugs.

Industry experts maintain that any trial subject could be eligible for compensation under the factors listed because of lack of clarity in the document.

The notification covers every category of patients without making the distinction between trial-related and non-trial related injuries.

The notification requires more clarity. Who will decide the period of free medical treatment? The notification simply mentions 'as long as required'. Earlier injuries meant only physical injuries. This leaves room for all (kinds of) claims. Besides the industry, this will hurt individual doctors and institutions conducting trials.

Most clinical trials are multi-centered and spread across countries. It is unfair that Indian trial subjects should get compensated on the basis of their minimum wages while subjects of the same trial in developed countries get significant amounts of compensation to rehabilitate them for life.

The move to treat any injury as trial-related is welcome as certain amount of liability has to be placed on sponsors and investigators. So far, it has been extremely challenging to attribute any injury or death directly to the trial because there are no guidelines to establish the link. This is in the best interest of trial subjects.

According to documents submitted by the health ministry in the Apex Court, 475 human clinical trials for “new chemical entities not approved as drugs for human use anywhere in the world” were approved by the Indian drug regulator between January 2005 and 30 June 2012. Out of the 475 experimental drugs, 17 have been given approval for marketing, according to court records. During the period, 11,972 serious adverse events, excluding deaths, were reported, out of which 506 have been attributed to clinical trials. None of the victims has been compensated.

Illegal kidney trade ever growing and illegal kidney transplantation rose to one in every hour –WHO data

The illegal trade in kidneys has risen to such a level that an estimated 10,000 black market operations involving purchased human organs now take place annually, or more than one an hour, World Health Organisation experts have revealed.

Evidence collected by a worldwide network of doctors shows that traffickers are defying laws intended to curtail their activities and are cashing in on rising international demand for replacement kidneys driven by the increase in diabetes and other diseases.

Patients, many of whom will go to China, India or Pakistan for surgery, can pay up to $200,000 (nearly £128,000) for a kidney to gangs who harvest organs from vulnerable, desperate people, sometimes for as little as $5,000.

The vast sums to be made by both traffickers and surgeons have been underlined by the arrest by Israeli police last week of 10 people, including a doctor, suspected of belonging to an international organ trafficking ring and of committing extortion, tax fraud and grievous bodily harm. Other illicit organ trafficking rings have been uncovered in India and Pakistan.

The Guardian contacted an organ broker in China who advertised his services under the slogan, "Donate a kidney, buy the new iPad!" He offered £2,500 for a kidney and said the operation could be performed within 10 days.

The resurgence of trafficking has prompted the WHO to suggest that humanity itself is being undermined by the vast profits involved and the division between poor people who undergo "amputation" for cash and the wealthy sick who sustain the body parts trade.

"The illegal trade worldwide was falling back in about 2006-07 – there was a decrease in 'transplant tourism'," said Luc Noel, a doctor and WHO official who runs a unit monitoring trends in legitimate and underground donations and transplants of human organs. But he added: "The trade may well be increasing again. There have been recent signs that that may well be the case. There is a growing need for transplants and big profits to be made. It's ever growing, it's a constant struggle. The stakes are so big, the profit that can be made so huge, that the temptation is out there."

Lack of law enforcement in some countries, and lack of laws in others, mean that those offering financial incentives to poor people to part with a kidney have it too easy.

Kidneys make up 75% of the global illicit trade in organs. Rising rates of diabetes, high blood pressure and heart problems are causing demand for kidneys to far outstrip supply.

Data from the WHO shows that of the 106,879 solid organs known to have been transplanted in 95 member states in 2010 (legally and illegally), about 73,179 (68.5%) were kidneys. But those 106,879 operations satisfied just 10% of the global need, the WHO said.

The organisation does not know how many cases involved the organ being obtained legitimately from a deceased donor or living donor such as a friend or relative of the recipient.

But one in 10 of those 106,879 organs was probably procured by black marketeers. If so, that would mean that organ gangs profited almost 11,000 times in 2010.

Proof of illegal trafficking is being collected by networks of doctors in various countries known as "custodian groups". The groups work to support the Declaration of Istanbul, the 2008 statement against global organ exploitation that was agreed by almost 100 nations.

Made up of hospital specialists who treat patients with end-stage kidney failure who survive on dialysis, and surgeons who operate on those lucky enough to get a new kidney, the groups monitor reports of black market activity in their own country or involving compatriots abroad.

While commercial transplantation is now forbidden by law in China, that's difficult to enforce; there's been a resurgence there in the last two or three years.

Foreigners from the Middle East, Asia and sometimes Europe come and are paying $100,000 to $200,000 for a transplant. Often they are Chinese expats or patients of Chinese descent.

The persistence of the trade is embarrassing for China. The health ministry in Beijing has outlawed it and has also promised to stop harvesting organs from executed prisoners by 2017, a practice that has brought international condemnation.

Jim Feehally, a professor of renal medicine at University Hospitals of Leicester NHS trust, said: "Since the Declaration of Istanbul the law on trafficking has been changed in the Philippines – which was one of the centres of transplant tourism – and the Chinese government realises that things have to change." Feehally is also president of the International Society of Nephrology, which represents 10,000 specialist kidney doctors worldwide. "Trafficking is still continuing – it's likely that it is increasing," he said. "We know of countries in Asia, and also in eastern Europe, which provide a market so that people who need a kidney can go there and buy one."

The key issue, Feehally said, was exploitation. "You are exploiting a donor if they are very poor and you are giving them a very small amount of money and no doctor is caring for them afterwards, which is what happens.

"The people who gain are the rich transplant patients who can afford to buy a kidney, the doctors and hospital administrators, and the middlemen, the traffickers. It's absolutely wrong, morally wrong."

Noel wants countries to defeat the traffickers by maximising the supply of organs from deceased and living donors, and encouraging healthy lifestyles to stop people getting conditions such as diabetes in the first place.

Indian Drug Regulator Accused of Corruption and Collusion

India's top drug regulatory agency violated laws and colluded with pharmaceutical companies to approve medicines without clinical trials, a parliamentary panel opined in a report.

The Central Drugs Standard Control Organization which oversees clinical trials and India's 10,000 drugmakers, approved medicines from companies including Novartis AG (NOVN), GlaxoSmithKline Plc. (GSK) and Cipla Ltd. (CIPLA) without clinical trials required to be done in the country, the standing committee on health and family welfare said in a report tabled in parliament recently. The standing committee on health and family welfare has found that the mandatory norms of Phase III clinical trials were not being followed strictly in India and in many cases approval for drugs was given by non-medical staff of the Central Drugs Standard Control Organisation.

The committee also found drugs that were banned in the U.S., Europe and most developed countries because of their adverse side effects had been approved for sale in India.

There is sufficient evidence on record to conclude that there is collusive nexus between drug manufacturers, some functionaries of CDSCO and some medical experts," the report opined. Such irregular approvals spare drug producers the cost and efforts but put Indian patients at risk.

The findings reveal an agency that may be putting industry interests over public health, in a country where pharmaceutical sales have increased an average of 14 percent annually since 2005. The regulator is understaffed, overburdened with drug approval applications and ineffective at regulating drugmakers.

Lax Oversight

Systemic flaws ranging from lax oversight of clinical trials and the absence of a system to monitor side effects of newly introduced medicines have meant the agency lacks the authority of its counterparts like the U.S. Food and Drug Administration and the U.K's Medicines and Healthcare Products Regulatory Agency.

The rules for clinical trials are very lax in India. The rules and regulations in Europe and the U.S. are very strict. In India we have so many loopholes that are exploited by pharmaceutical companies.

Several clinical trials approved by the agency didn't have a representative mix of patients from India's main ethnic groups, rendering the data inconclusive.

Such trials do not produce any useful data and merely serve to complete the formality of documentation.

Investigation

The findings were based on a 1 1/2-year investigation of 42 medicines that were approved by the agency from 2004 to 2010. Of these, 31 new drugs were approved without conducting clinical trials on Indian patients.

At least two medicines, Paris-based Sanofi (SAN)'s dronedarone and aliskiran from Basel, Switzerland-based Novartis were approved on the basis of trials that were conducted on less than 50 people in India, even though the laws require a minimum of 100 patients.

The country has 92,000 brand names of registered pharmaceuticals, according to a compendium of medicines sold in the country. The World Health Organization, in contrast, recommends 340 essential drugs. About 90 percent of drugs sold are generics, which their manufacturers seek to differentiate with unique names -- making them branded generics.

Manpower Shortage

The committee observed that out 327 sanctioned posts only 124 was occupied. It notes with serious concern that “CDSCO is substantially under-staffed. Of the 327 sanctioned posts, only 124 are occupied. At this rate, what would be the fate of 1,045 additional posts that have been proposed is a moot point.

What this means is that the country's leading body for drug regulation, which is responsible for laying down the standards of drugs, cosmetics, diagnostics, devices and regulatory measures, estimates that the nation requires 3,200 DIs for its six lakh chemists. No wonder drugs are being approved without clinical trials putting the masses at risk!

There are only 900 DIs for the country's 1.2 billion population. This creates an extremely precarious condition considering India is the world's leading producer of generic drugs. The compulsory license verdict could have opened up a can of worms instead of being the panacea for all illness. And, the nation's drug exports is expected to rise from Rs 420 bn to Rs 2000 bn over the next five years. The size of the medical devices industry would be Rs 1000 bn.

Love, affection of distant kin good enough for donation of Human organs: Delhi HC

In what could script new rules for organ donation between distant relatives, the Delhi High Court said that love and affection between the donor and recipient held top priority in such cases and a request could not be turned down simply because a family member had not stepped forward. Commercial transactions are prohibited in the giving and taking of organs. However, donations offered out of love and affection - even among those who are not near relatives - are permitted. The Act (regulating organ transplant) recognizes two of the greatest human virtues of love and sacrifice and also the fact that such intense love and affection need not necessarily be felt for one's own blood or spouse but could also extend to those not so closely related, or for those not related at all.

Justice Vipin Sanghi made these observations while adjudicating a petition by Parveen Begum who was in dire need of a kidney. The Sir Ganga Ram Hospital's authorisation committee had turned down her request to receive the organ from her niece. Her family moved court against the hospital's decision. Justice Sanghi said that a hospital's authorisation committee, which examines cases of organ donation between distant relatives, could reject such a request only when there is ground to apprehend that the donation involved commercial transaction.

Referring to a provision under the Transplantation of Human Organs and Tissues Act-1994 (TOHO) Judge held that “Merely because in a given case, a near relative may not be willing to donate his or her organ/tissue to the recipient, it is not ground to either raise suspicion of a commercial transaction, or to reject the case altogether. It is not the mandate of the authorisation committee to compel or drive the near relative of the recipient to donate their organ/tissue to the recipient”.

Justice Sanghi opted to interpret the term “payment” under the Transplantation of Human Organ and Tissues Act and noted that this would not cover a monetary transaction between a donor and recipient in the past when such a transplant was not required. It refers to a monetary payment made by a donor on his or her behalf to a recipient as consideration for the donation of an organ. It does not refer to a contribution, gift or monetary support made or granted gratuitously in the past, when even the need for organ transplant was not in existence. The test is, whether the said payment would not have been made but for the donor agreeing to donate his or her organ.

Justice Sanghi noted that financial disparity between the donor and the recipient will also not come in the way of such donations unless the committee has something material on record indicating involvement of commercial elements. Going a step further, he said that a sense of love, affection and gratitude, once established, provided the impetus to donate one's organ, and any financial help by the recipient's family in future could not lead to a conclusion that a monetary deal was struck between them at the time of the donation.

After examining the records in Parveen Begum's case, the court found infirmities in the committee's decision, quashed it and ordered the committee to give formal approval for the donation in two days. Justice Sanghi underlined that there were photographs on record to show the family pedigree proving their relationship; various reports from authorities prepared after local examination at Meerut; photographs taken 30 years ago and a statement from the niece.

The niece had stated that her aunt and her family had helped her financially and also supported her family otherwise when they were in penury and that she now wished to help her, out of gratitude, by donating one of her kidneys.

Indian Medical tourism Industry is booming: Medical tourism share in GDP may rise five-fold

The medical tourism industry is the third fastest growing industry, after mobile devices and apps industry. The future for medical tourism is very bright as more and more individuals become comfortable with the idea and results of having successful treatments for a better value away from their own neighbourhoods. India is perceived as one of the fastest growing medical tourism destinations with its current market at $2 billion with 30 per cent growth. Some studies have shown that the revenue is much higher than the touted figure, and is mostly due to the undocumented nature of these occurrences.

The medical tourism industry in India has a potential to contribute around 25 per cent to the country's gross domestic product over the next five years if fully-tapped, according to Lafargue, founder and chairperson of Indian Medical Tourism Conference and Alliance (IMTCA). The growing industry not only creates value for money for foreign tourists but also brings in huge foreign exchange to the country and facilitates various ancillary industries.

The sector right now is highly unorganised, where only a handful of hospitals and doctors are reaping benefits. Given the existing infrastructure, highly skilled doctors and medical professionals and low-cost health services, if fully tapped, the sector may see a five-fold increase in its contribution to the GDP from the current less than five per cent. Medical tourism boom is happening in other Asian countries including Malaysia, Singapore and Thailand, whereas India is losing out to its competitors due to many factors.

The sector faces shortcomings such as - no transparency in billing system, low patient flow, no common platform available to promote country's medical tourism as a whole and inadequate and limited patient documentation. Medical tourism had become a major source of national income in many countries such as Israel and Jordan -- the latter gets 5 per cent of its GDP from medical tourism and Israel gets in double-digit.

According to estimates, India's share in the global medical tourism industry will reach around 3 per cent by 2013-end. The growth of medical tourism industry is marked globally, encompassing around 50 countries in all continents. Asia itself generates revenues in billions and consists of 12.7 per cent of the global market.

Major healthcare players in India such as Apollo and Fortis have reported 10 per cent of their revenues from the medical tourism segment. International patients are getting treatments for Surrogacy, Dental treatments, Vision, Cosmetic surgery, Hair transplant etc. IMTCA is a not-for-profit international multidisciplinary organisation that promotes excellence in research, treatment and provision of better and alternative healthcare, provides education and training, acts as a platform for doctors and international patients and creates awareness on global opportunities.

IMCTA, which started recently, has 75 members for its first chapter. IMCTA plans to conduct two-three conferences a year across cities and aim to get 300-400 members per conference. In addition, Indian pharmaceuticals have produced research drugs at unbeatable prices for treating diseases like cancer at a fraction of the cost compared to their counterparts in western countries. The Indian medical equipment industry is also offering low-cost equipment, bringing down the overall costs of healthcare in the country. New hotel chains have also sprung up to support the needs of international guests at various price levels. English language and multicultural acceptance also add to all this benefits.

Parliamentary panel rejects shorter medical degree plan for Rural Health

A Parliamentary Committee recently rejected the Health Ministry's plan to introduce a shorter medical degree course aimed at addressing manpower shortages in Rural Healthcare.

It said the proposed Bachelor in Rural Healthcare course would legitimize differences in the quality of medical treatment in rural and urban settings. The Government had proposed introduction of a 3.5-year Bachelor of Rural Healthcare course, rechristened as BSc (Community Health) course, from the current session to produce Community Health Officers (CHOs) in rural India which did not have adequate number of doctors.

Parliamentary Committee discussed the issue at length and it was unanimously decided to turn down the proposal. This course would essentially institutionalize the difference in quality of doctors. The lesser trained doctors would be treating in our villages while the better qualified ones would stay in urban areas. Indian citizens cannot get two types of medical treatment.

Parliamentary Committee instead recommended a compulsory one-year rural posting for medical graduates to address healthcare needs in rural areas.

The Health Ministry had proposed the shorter course to address the shortage of doctors in rural India. Those graduating from the course were to be posted as community health officers at primary healthcare centers and district hospitals in semi-urban and rural areas. Experts said the panel's decision could have an adverse impact on the crumbling public health infrastructure.

In India we have a dire shortage of qualified health professionals including doctors, nurses and para-medical professionals. Doctors alone cannot solve India's health problems.

We need to quickly introduce legitimate, skilled, low-level providers into the system. Right now, we have a million plus unregistered professionals--dais and quacks--who can be given formal training within a well-regulated system to produce allied health professionals who will stay in villages. Students who finish the five-year MBBS course do not stay in the villages, so adding more seats will not solve the problem of rural healthcare.

The parliamentary report states “that a very substantial portion of primary healthcare is provided by untrained providers and often by quacks and there is acute shortage of healthcare professionals in rural areas. The committee would, therefore, like the ministry to devote its energies towards devising new strategies to overcome this gigantic problem”.

Health Minister Ghulam Nabi Azad had recently stated in Parliament that the proposed course was likely to be introduced in the states willing to adopt it from the 2013-14 academic year. Azad had also said that medical bodies like the Indian Medical Association (IMA) have not welcomed the proposal, but the government is committed to introduce the course, with inbuilt safeguards, to address the serious shortage of human resources in health sector in rural areas.

Besides increasing the number of doctors, the parliamentary panel added that more nursing graduates should be posted in sub-centers and nursing school enrollments should rise.

Passive euthanasia gets Law Commission push in India

The Law Commission if India has made a recommendation to the government to initiate measures to enact a comprehensive law on passive euthanasia, subject to certain safeguards. “It's not objectionable from a legal and constitutional point of view,” the commission, which advises the government on legal issues.

In April 2011, the UPA government had asked the commission to study the feasibility of framing a law for euthanasia after the SC in the Aruna Shanbaug case legalised passive euthanasia and said its verdict will be the law of the land until Parliament enacted a law on the issue.

The Law Commission has come out in support of the Supreme Court judgement on allowing withdrawal of life-support measures of a dying patient with certain safeguards, saying it is 'not objectionable' from legal and constitutional angles.

It's desirable to enact a law on the lines suggested by the commission at the earliest, so that uncertainty may be resolved and the procedure prescribed by the SC may be refined the commission's chairman opined in a communication to the Law Minister of India.

In an earlier report too, the commission had recommended legalising passive euthanasia.

But, active euthanasia remains a crime under Section 302 (murder) or 304 (culpable homicide not amounting to murder) of the IPC, along with physician-assisted suicide under Section 306 IPC (abetment to suicide). The Apex Court noted that while active euthanasia (mercy killing) was illegal, "passive euthanasia" can be permissible in exceptional circumstances by High Courts or Supreme Court.

The commission has prepared a draft “Medical Treatment of Terminally-ill Patients (Protection of Patients and Medical Practitioners) Bill” for the government's consideration.

“A competent adult patient has the right to insist that there should be no invasive medical treatment by way of artificial life-sustaining measures/treatment and such decision is binding on the doctors/hospital attending on such a patient, provided that the doctor is satisfied that the patient has taken an 'informed decision' based on free exercise of his or her will,” the panel said.

Should the patient not be in a position to take healthcare decisions due to an irreversible coma or is in a persistent vegetative state, the doctor's or relatives' decision to withhold or withdraw medical treatment is not final, the report stated.

The Commission said the same rule will apply to a minor above 16 years of age who has expressed his or her wish not to have such treatment provided the consent has been given by one of the parents of such patient.

The panel said if patients cannot take a decision on their own, then the decision of the doctors or relatives to withhold or withdraw the medical treatment will not be final. The relatives, next friend, or the doctors concerned or hospital management shall get the clearance from the High Court for withdrawing or withholding the life sustaining treatment.

Further, a competent patient (who is terminally ill) refusing medical treatment shall not be deemed to be guilty of any offence under any law.

It also said the governments will have to devise schemes for palliative care at affordable cost to terminally ill patients undergoing intractable suffering.

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Suicide second leading cause of death among young Indians, most suicides in India in 15-29 age group

Suicide has become the second leading cause of death of young people in India, which has one of the highest suicide rates in the world, according to a study published in Lancet. Suicide kills nearly as many Indian men aged 15-29 as transportation accidents and nearly as many young women as complications from pregnancy and childbirth.

Transport accidents are the leading cause of deaths in men (about 14 per cent) in India while maternal disorders are the main cause of deaths among women (about 16 per cent), the study said. After that suicide is the second leading cause of death of young people in India - 13 per cent in men and 14 per cent in women.

With decline in maternal death rates, suicide could soon become the leading cause of death among young women, noting further that public health interventions such as restrictions in access to pesticides might prevent many suicide deaths in India. "In India, suicide is the cause of about twice as many deaths as is HIV/AIDS, and about the same number as maternal causes of death in young women," the article states.

The research is based on the Registrar General of India's first national survey of the causes of death, conducted in 2001-03, and the researchers applied the age-specific and sex -specific proportion of suicide deaths in the 2001 03 survey to the 2010 UN estimates of absolute numbers of deaths (and age-specific risks) for all causes in India.

The Registrar General of India's survey found that about 3 per cent of deaths in India of people aged over 15 are due to suicide.

Using projections by the United Nations of total deaths, the study authors estimated that about 187,000 suicides occurred in 2010. Of those men who died by suicide, 40 per cent were between the ages of 15 and 29. Of the women, 56 per cent were in that age bracket. WHO estimates that 1.8 lakh suicides occur in India every year but very few epidemiological studies have been carried out in the country. WHO also estimates that about 9 Lakhs people commit suicide worldwide every year, including 2 Lakhs in China alone.

The four southern states — Tamil Nadu, Andhra Pradesh, Karnakata and Kerala — contribute 42% suicide deaths in men and 40% in women. Maharashtra and West Bengal together accounted for an additional 15% of suicide deaths. Delhi recorded the lowest suicide rate in the country. In absolute numbers, the most suicide deaths in individuals, aged 15 years or older, were in AP (28,000), Tamil Nadu (24,000) and Maharashtra (19,000).

Educated likelier to commit suicide!

What is shocking is the fact that the educated seem more likely to contemplate suicide. Suicide risk is 43% higher in men who finished secondary education and among women the risk increased to 90%.

Pesticide poisoning leading cause

Almost 50% of suicide deaths are caused by pesticide poisoning, followed by hanging and burning. In fact due to decreasing maternal mortality, suicide is likely to become the leading cause of death among young women. Violence and depression are the key determinants of suicide in women.

No strategy

The study also suggests that there is no strategy for suicide prevention in India. Another big issue is the stigma the mentally ill face in India. There is very less awareness about diseases like dementia, depression, etc. even as the number of mentally ill keeps increasing. Though the media usually focusses on farmer suicides about 75% of suicides occur in occupational groups like the unemployed and homemakers.

Need of the hour

Suicides can be prevented. There is a need for proper counselling and awareness from a young age. Various steps need to be taken to increase awareness and sensitising society to the needs of the mentally ill. Also steps need to be taken to treat depression and addiction. There are no guidelines too.

Why India's illegal Surrogate Industry needs to be regulated

Sir Robert Edwards – the father of the In Vitro Fertilisation (IVF) – who passed away two days ago, would never have imagined the worldwide repercussions of his invention. While IVF has given children to thousands who never thought they would have children, it has also exploited thousands of women in poor countries who've been forced to be surrogate mothers because of their poor financial situation.

Hundreds of American couples are hiring women in India as surrogate mothers. For many couples, the only hope to create a child of their own is to fertilize an egg in a test-tube and implant it in a surrogate.

Indian clinics do that for a fraction of the usual cost. But it's an unregulated industry dependent on vulnerable women. The procedure in which doctors implant an embryo into the womb of a surrogate mother is a delicate operation. If all goes well, in nine months time, the surrogate will deliver a baby for a childless couple.

Couples from Edwards' native Britain along with Americans are coming in droves to India to hire women as surrogate mothers. Indian clinics offer them services at a fraction of what it costs in the UK or the USA and due to this India have been unofficially christened the 'Surrogacy Capital of the World'. It's estimated this illegal industry is worth Rs 13033 crores. And it's an industry which is dependent on vulnerable, financially-poor women.

Lack of guidelines, a toothless Indian Council of Medical Research (ICMR) along with cheap labour and high demand has created this dangerous environment. India's surrogacy laws have faced some vehement criticism from many quarters. There are so many women who don't want to see their own child dying out of bad health, or not getting educated, not getting two meals a day. So that's why so many women are available.

A recent case involved a woman called Premila who acted as a surrogate for an American couple last year. Eight months into her pregnancy, she suffered from convulsions caused by the pregnancy. Though doctors managed to save the baby, Premila passed away and sadly under the current laws she wasn't entitled to any sort of compensation. The American couple decided, voluntarily, to leave them $20,000. Her mother Kanku Ben Chavan said that her daughter was illiterate and she couldn't read the contract she had signed to become a surrogate and none of the family members understood what would happen if she died. It also shows how women who undergo the procedure don't truly understand or aren't explained the side-effects of being a surrogate.

The 'surrogate industry in India' needs to be regulated. The vulnerability of poverty is being exploited in this whole system — it should be banned. It should not be allowed.

However, despite the risks there are lots of women who want to be surrogates. Not all of them are selected and those that are consider themselves lucky. Many of these women use this money to put their children through college or for other needs. They see surrogacy as a mean to help their family earn money.

Very rarely do fertility clinics provide surrogate mothers with life insurance and medical care, the primary concern is the health and well-being of the baby. That's why there's a need to regulate the surrogacy.

Strict laws on the way?

About a month ago, the Central Health Minister opined that the Government proposed to bring a bill that will regulate surrogacy and other ART-related practices in India. The bill proposed to protect the rights of infertile couples or individuals and also ensure the formation of national advisory board and maintain a National Registry of ART clinics and banks, state boards and registration authorities and fix their responsibilities and duties.

Despite the Health Minister's kind words and the passing of the ART Bill 2010 (as it's known), it will make little difference to the ground realities. The laws passed in parliament seem to have little effect on what really happens. Take for example the PCPNDT Bill (Pre-Conception and Pre-Natal Diagnostic Techniques) which forbids sex determination tests. Though the Bill has been around for almost 30 years sex-determination remains a rampant practice and female foeticide numbers have actually gone up over the years. And the problem is compounded by inadequate implementation, barely a handful of doctors have actually been arrested for their heinous crimes.

SYMBIOSIS

FOUNDER : PROF. DR. S. B. MUJUMDAR M.Sc. Ph.D.

(Awarded Padma Bhushan by President of India)

SYMBIOSIS CENTRE OF HEALTH CARE

Wellness Quotes

1. We can improve our performance by as much as 15 percent

   if we listen to music while working out.

   According to the sports psychologists, "Music listening can be an effective dissociation strategy, reducing perceptions of effort and fatigue by up to 12 percent."!!

   So have you improved on your exercise today?

2. Most adults need at least 30 minutes of moderate physical activity at least five days per week.

   Just Remember the FITT Principle:

   F – Frequency (Five days a week)

   I – Intensity (Moderate)

   T – Time (30 to 45 min)

   T – Type (Strength, Stamina and Suppleness)

3. Myth -Muscle turns to fat. Because many people gain weight when they stop exercising, there's a misconception that muscle turns into fat. In reality, muscle fibers and fat cells are two very different entities one cannot become the other.

   The truth: Many people gain weight after they stop exercising because their body is burning fewer calories – but they continue to eat the same amount of food!!

4. Nature has designed our human body for activity & movement.

   Movement and methodical physical exercise save it and preserve it.

   Inactivity/ lack of movement destroys the good condition of the human body.

   SO GET GOING

5. Start off at a moderate intensity

   You need to prepare your body to exercise gradually bit by bit to avoid over-straining.

   For that, your exercise program has to be structured, systematic and progressive [beginning with a low intensity and gradually increasing].

   Sudden/ abrupt starting & zooming to your highest level increases risk of injury.

6. To lose weight----------eat more

   Sounds paradoxical??????????????

   Starvation for long time increases weight.

   Every time we starve, body uses the stored fat for energy.

   When we eat, we tend to over eat.

   Body recalls the starvation and converts the food into fat again

   So adequate diet at regular intervals is desired for ideal weight.

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7. Learn good form by working with a professional.

   Professional trainers are just that, "professionals". They are trained in the science of exercise and can help you to achieve better results than if you exercised on your own.

   They also help you to perform proper techniques to avoid injury and can keep you motivated.

8. Women avoid strength training like the plague, either because they think they'll gain weight or because they like cardio better. BUT…

   Muscular strength and endurance are incredibly important for women too, to keep the bones and joints strong & healthy.

   Use weights that you can easily lift 15 to 20 times before starting to feel exhausted. This will tone and strengthen without building bulk.

9. DON`T OVER-EXERCISE

   Too much, too fast, too soon are the main causes of injury. Over-exercising and under-exercising are both detrimental to health.

10. Myth: Drinking more water daily will help you lose weight.

    Reality: There's no evidence that water peels off pounds.

    Foods containing water -- such as soup -- can fill you up, "but just drinking water alone doesn't have the same impact .Our thirst mechanism and our hunger mechanisms are two different things."

11. Myth: Walking does you no good, you need to exercise harder.

    Study after study shows that walking 30 to 60 minutes a day at a moderate pace reduces major health risks substantially.

    Intense exercise has its own appeal, especially to competitive-type people. But an emphasis on sweaty, intense exercise turns off many people, who then stay sedentary and increase their health risks.

    Walking is a great lifelong exercise that most people can do, and keep doing their entire lives. Walking: The Miracle Cure

12. Myth: Avoid foods with a high glycemic index (high glucose contend food)

    Reality: You could use the glycemic index to adjust your food choices, but don't make it your sole strategy for losing weight or controlling blood sugar.

    "For those people who are already counting carbs, this can be a way for them to fine-tune their food choices, but it isn't the be-all, end-all for weight loss.

13. Myth -Muscle turns to fat. Because many people gain weight when they stop exercising, there's a misconception that muscle turns into fat. In reality, muscle fibers and fat cells are two very different entities one cannot become the other.

    The truth: Many people gain weight after they stop exercising because their body is burning fewer calories – but they continue to eat the same amount of food!!

14. Myth- Fat on the body comes from fat in foods. This belief has led to a slew of fat-free and reduced fat foods.

    The truth: Body fat comes from calories, not necessarily fat. If you eat more calories than your body burns – whether it comes from lettuce or a double-cheeseburger – your body will store the extra calories as fat!!

15. Start with good sitting posture. When you are driving your car

    Keep your back against the seat and head rest.

    Adjust your seat to maintain a proper distance from the pedals and steering wheel. If you're leaning forward, pointing your toes, or reaching for the wheel, you're too far away. If you are bunched up with your chin on top of the steering wheel, you're too close.

Adjust the head rest. The head rest should be adjusted so that the middle of your head rests against it. Tilt the head rest as needed, to maintain a distance of no more than four inches (10cm) between the back of your head and the head rest.

16. Identify good posture.

Good posture is nothing more than keeping your body in alignment. What good posture looks like when a person is standing : a straight back, squared shoulders, chin up, chest out, stomach in. If you can draw a straight line from your earlobe through your shoulder, hip, knee, to the middle of your ankle——you've got it. To find yours:

17. Take standing breaks.

Even if you're using perfect posture while sitting in the best chair in the world (and it's debatable whether there is such a thing, you need to stand up and stretch, walk around, do a little exercise, or just stand there for a few minutes.

Your body was not designed to sit all day, and recent studies from the University of Sydney have found that "prolonged sitting is a risk factor for all-cause mortality, independent of physical activity. So" Keep moving!

18. Wake up feeling stiff, sore, and groggy.

Sleeping on your back (Supine) will help keep your shoulders straight, and it is usually more comfortable for the back than sleeping on the stomach (Prone).

If you prefer sleeping on your side, try slipping a small, flat pillow between your knees to help keep your spine aligned and straight.

Use a pillow to provide proper support and alignment for the head and shoulders. Don't overdo the pillows——too many, and your head can be bent in an unnatural position; this will hurt your posture.

Sleep soundly

19. Stay in shape.

To keep your entire musculoskeletal system in tune to support your posture, it's important to keep yourself in shape. Try these tips:

Lie on your back, with your legs bent to about 90 degrees at the knee, and your feet on the floor.

Pull your belly-button towards your spine and holding it at the end. This is a different type of contraction than crunches (crunches feel like they are more at the front of your stomach, while this feels like it is more inwards and towards your back).

Hold for ten seconds, repeat eight times. Repeat it daily.

Maintain the proper posture even if you are getting tired and are not using other muscles like your back or butt muscles.

Breathe normally during this exercise, as you are training your core to be able to maintain this position during normal activities in daily life.

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