Trends in Pharmacy Training-Way forward. Presentation at the PSU Awareness Week Sept. 2006

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PHARMACY

- That branch of medical science concerning the sources, nature, properties, preparation (formulation) and use of drugs
- Pharmacy and the practice of medicine were often combined,
- Close association of drugs, medicine, and religion or faith
- Specialization first occurred in the 8th century in the civilized world around Baghdād

Age of Galenicals

- Up to 1940s (empirical age)
- Pharmacognosy and Galenical Pharmacy typified pharmacy practice and education
- Natural products and crude extracts were compounded and dispensed by the pharmacist

- The pharmacy was perceived as highly professional
- The pharmacist made crude extracts, tablets triturates, capsules, suppositories to dispense
- He had the legal right to sell any drugs in his possession without prescription
- Pharmacist was the principal health provider providing clinical pharmacy

- <u>1940-1970: Scientific Era and</u>
 <u>Industrialization</u>
 - Formation of standardized and pre-packaged medications
 - Elimination of compounding by pharmacists
 - Little contact with pts
 - Not perceived as drug experts and advisers

- Considered by health care community as businessmen than professionals
- Additionally laws passed in early 1950s prevented pharmacists from directly recommending treatment to pts
- This limited the scope of information and problem-solving activities

- Pharmacy education responded by becoming scientific and less practice, less pt-oriented
- The education also seemed to lose sight of its focus
- Pharmacists were considered over educated and under-utilized
- Trainers were frustrated with limited roles played by graduates of Pharmacy

- This lead to a mismatch between professional practice of pharmacy and education obtained
- Therefore a new thinking to focus on the patient
- Emphasized the concept of pharmaceutical care
- The pharmacist as therapeutic advisor

 The modern pharmacist deals with complex pharmaceutical remedies far different from the elixirs, spirits, and powders described in the *Pharmacopeia of London* (1618) and the *Pharmacopeia of Paris* (1639)

PHILOSOPHY OF PHARMACY TRAINING (1)

 A profession concerned with the development of human and animal drug treatments, preparation and dispensing of medicines and provision of drug and related information to patients and their caretakers.

PHILOSOPHY (2)

- Is both an art and science that span from drug production to monitoring for the safety and effectiveness of medicines
- The pharmacist therefore needs to employ lifelong learning skills to keep adept with new developments

THE ROLES AND FUNCTIONS OF THE B.PHARM PROGRAMME GRADUATE

- Provision of pharmacy services
- Management of Health Services
- Generation of Information (Research)
- Dissemination of Information (Teaching)
- Community Leadership

COMPETENCES

- Problem solving
- Life long learning
- Leadership
- Communication
- Clinical acumen
- Managerial/Administrative
- Teamwork
- Research

The curriculum is traditional in that it is

- Teacher-centred and mainly lecture based
- Almost wholly Faculty and Teaching Hospital based
- Abstract in delivery
- Not adaptable to the changing Health needs of the population

WHAT IS PROBLEM BASED LEARNING ?

- PBL is a method of learning in which:
 - Learners first encounter a problem
 - Systematic, learner centred inquiry and reflection is the rule
 - Students are helped to learn sciences basic to pharmacy
 - The reasoning process used by pharmacists/physicians and other health professionals is developed



Source: "Starting strong: A Guide to Pre-service Training, "1996, MOSAICA – AmeriCorps National Provider

STATE OF THE ART HEALTH WORKER TRAINING BY SPICES MODEL

- S = Student Centered Learning
- P = Problem Based Learning
- I = Integrated Learning
- C = Community Based Education & Service (COBES)
- E = Elective courses
- S = Systematic planning

INCLUDES

- INTERGRATION
- EARLY CLINICAL/INDUSTRIAL EXPOSURE
- COMMUNITY ORIENTATION
- ACTIVE LEARNING

INTERGRATION

- FUSION OF RELATED DISCIPLINES INTO A LEARNING EXPERIENCE
- HORIZONTAL

• VERTICAL

HORIZONTAL INTERGRATION

- AT THE SAME LEVEL
- INTERDISCIPLINARY

NO REPETITION

- NO COMPARTMENTALISATION

INTERGRATES LEARNING

NO DEPT. COMPETITION

VERTICAL INTERGRATION

ACROSS EDUCATIONAL LEVELS

FUSES:

- BASIC SCIENCE
- CLINICAL EXPERIENCE AND
- COMMUNITY EXPERIENCE
- INDUSTRIAL EXPERIENCE

ACHIEVING INTERGRATION

- INTERDISCPLINARY COURSE UNITS
- BLOCKS WITH RELATED COURSES
- SEQUENCING
- SPIRALLING
- EARLY CLINICAL EXPOSURE
- EARLY COMMUNITY EXPOSURE
- EARLY INDUSTRIAL EXPAUSURE

LEARNING AND TEACHING STRATEGIES

- **Knowledge outcomes**: includes a clinical reasoning process that leads to competencies in problem solving and how to make a comprehensive and shared patient management plan.
- **Skills outcomes**: a host of pharmacy skills, self directed learning skills and communication skills that will enable the graduate to be a life-long learner.

Teaching and learning strategies

- Attitudinal outcomes:
 - ability to listen to others actively and with empathy,
 - ability to build trust through being worthy of trust,
 - respect for cultural diversity,
 - understanding the pharmacist's responsibilities towards her/his colleagues and other members of the health care team.

ACTIVE LEARNING

- USING PROBLEMS
- TUTORIALS
- SELF STUDY
- SKILLS LABS

CLINICAL/INDUSTRIAL EXPOSURE

- STARTS IN YEAR ONE.
- WARD / INDUSTRIAL PLACEMENTS
- PAPER CASES
- REAL CASES
- RELATED TO COURSES COVERED

IN PBL

- The problem is introduced without advance reading, lectures or preparation
- The problem serves as a stimulus for the need to know
- The student identifies what he/she needs to learn in order to solve the problem
- A student is thus motivated to go out and look for the information necessary to meet the need.

PBL Develops:

- Integrated, context specific knowledge base
- Decision-making/critical thinking process and skills
- Self-directed, life-long learning skills
- Interpersonal, collaboration, and communication skills
- Constructive self and peer assessment skills
- Professional ethics and behaviour

COBES

- Become conversant with the needs of the community.
- Be familiar with how health services are managed.
- Acquire the skills of information gathering and dissemination (research skills).

A PROBLEM CAN BE:

- A patient care problem
- A community health problem (e.g. disease outbreak)
- A management and administration problem
- A real patient with symptoms and signs
- An idea or fact
- Research observation

PBL VS TRADITIONAL

- Academic achievement short term no difference, long term recall better in PBL
- Clinical: Better clinical skills, better humanistic KAS in PBL
- Student approach to learning students:
 - Study for understanding and meaning not just to pass
 - Make more use of a greater variety of learning resources
 - Feel more satisfied, less stressed, more challenged and engaged

Evidence

- Students consider PBL to be an effective learning method and favour it over the lecture format (<u>Antepohl W</u>, <u>Herzig S</u>. Med Educ. 1999 Feb;33(2):106-13)
- Students achieve more in PBL than in LBL (Michel et al, 2002 Jul;366(1):64-8. Epub 2002 May 22)

Challenge of PBL

- Heavy commitment
- Requires more man power
- Requires wider scholastic resources
 - Library
 - Rooms
 - Books
 - Computer services
 - Time

Way forward

- PBL is generally touted as providing a very favorable frame-work for active student learning
- It is also context-specific
- Therefore
 - Struggle to promote the system

• THANK YOU