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Pharmacy Education: TQM

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Abstract

The pharmaceutical education is rapid growing and wide sector which caters health care system, conducts research, manufacturing and marketing of biological and pharmaceuticals products and medicinal devices used for the diagnosis and treatment of diseases. Organized and quality knowledge regarding theoretical and practical aspects is basic and challenging requirement to meet the need of daily changing scenario in pharmacy education. Total Quality Management (TQM) approach, which is aimed to prevent defects rather than detection of defects, can be used to improve the quality education of professionals and finally to attain, maintain and assure quality education to pharmacy professional. This article focuses on TQM, its elements, advantage, disadvantage, implementation of TQM to improve pharmacy education and professionals.

Key-Words: TQM, Pharmacy, Pharmaceutical, Education, Self-evaluation

Introduction

Education can be considered as a Commodity and for its fast movement of in the market, basically for benefit and efficiency point of view, it must bear traits as profit oriented business product have. The quality of the product/professionals coming out from the Pharmacy colleges should match the fast changing global pharmaceutical scenario. Hence in this regard, we should be able to conceptualize Total Quality Management (TQM) of Pharmacy colleges. [1]

The pharmacy education sector is a vital segment which produces professionals of different disciplines every year. Those professionals play major role in health care system, conduct research, manufacturing and marketing of pharmaceuticals, biological products and medicinal devices used for the diagnosis and treatment of diseases. The incomplete and unorganized knowledge to professionals may lead to big loss to any organization, health hazards or even spoilage of products. [1,2]

Although the responsibilities for assuring adroit professionals with best quality education belongs primarily of faculties and involves many disciplines and department within a pharmacy education sector.

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In order to maintain the quality education some very essential and rudimentary facts must be considered like continuous improvements in learning skills and teaching facilities, mode of communication, teaching pattern, mode of teaching like use of videos/audios/pictures/power point presentations, duration and number of lectures, refreshment time, design and space of classroom, acoustic, light and air ventilation system, cleanliness and comfort during learning, quality and precise material to be delivered, illustration of facts using appropriate number of examples and enlighten every dimension of theoretical and practical aspects. [3]

In academics the assurance of quality of skilled professionals requires test series, multiple questions, educational trips, industrial visit, lecture delivery, poster presentation, group discussion etc. Extra measures like personality development classes or extra classes or tutorial must be performed to improve their professional, communication skills and to emphasize more on theory and practical aspects. Prime responsibility of maintaining the product quality (knowledge) of professionals during education must include identifying their skills, strength and focus on weakness. Faculties must establish time to time evaluation of professional's knowledge to control or check their quality and developed professional skills as it is processed and up to completion of educational course. [3,4,5]

As in industrial manufacturing which basically begins with raw materials (except equipments) similarly in

education system begins with students with different skills and qualities. It's necessary to identify their skill qualities and guide them accordingly to boost their moral and confidence to improve their performance in efficient way. Quality assurance policy for skilled professionals with respect to theoretical and practical aspects, therefore, becomes the most important goal of pharmacy education system. [5]

As in industry the concept of quality assurance and quality control develops and follows standard operating procedures (SOP) directed towards assuring the quality, safety and efficacy similar quality education can be given to professionals by improvement in teaching and learning methods, communication to let them understand the things by giving them closer exposure about the facts and reality about task. [6]

As World Health Organization (WHO), FDA have issued a primary or fundamental regulation and standards to pharmaceutical industries entitled good manufacturing practice (GMP) for pharmaceuticals similarly AICTE, PCI, NBA or other education regulating bodies are regulating Pharmacy Education in India. These educatory bodies set their individual standards to give recognition and grade the institutions. The quality is critically important ingredient to organizational success today. It can be achieved by applying a wide and new approach in an organization to focuses on quality as an over arching goal, i.e., TQM which is a method of improving the effectiveness of an organization by involving every individual at every level within the organization so that they work together. TQM efforts typically draw heavily on the previously-developed tools and techniques of quality control. TQM system is targeted mainly to prevent defects rather than detection of defects. It must be supported by a team effort to be effective. This concept basically originated and adopted by several industries. Total quality control refers to the process to produce a perfect product by a series of measures requiring an organized effort by the entire company to prevent or eliminate errors at every stage in production in an industry. This review focuses on TQM and its application in Pharmacy Education Sector. [7]

Terminology Quality
It is basically defined as an inherent or distinguishing characteristics or property. Quality is an unusually slippery concept, easy to visualize and yet difficult to define. It is a matter of feeling. Its definition varies from person to person depending on the perspective in which defined. The code defines as 'quality therefore is the totality of features and characteristics of a product/service that bears on its ability to satisfy given needs'. [10]

According to quality gurus the definition varies as – conformance to standards or specifications; fitness for use; meeting customer's requirements or expectations; delighting the customer etc. The quality, for a product or service, has two aspects, both of which together make for an appropriate definition of the term. The first relates to the features and attributes of the product or service. These ensure that the product or the services meets the needs of the user and the second aspect concerns the absence of deficiencies in the product. Eight dimensions of quality are performance, features, reliability, conformance, durability, serviceability, aesthetics and perceived quality for organizational success. [11]

Quality Control
It is a process by which entities review the quality of all factors involved in production. This approach emphasize on three aspects:
- Elements (control, job management, performance and integrity criteria, identification of records)
- Competence (knowledge, skills, experience, qualifications)
- Soft elements (personnel, integrity, confidence, organizational culture, motivation, team spirit and quality). [12]

Total Quality Management (TQM)
It is basically defined as organization-wide efforts to install and make permanent a climate in which an organization continuously improves its ability to deliver high-quality products and services to customers. TQM efforts typically draw heavily on the previously-developed tools and techniques of quality control. [13]

OR

TQM is continuous process of reducing or eliminating errors in manufacturing, streamlining supply chain management, improving the customer experience and ensuring that employees are up-to-speed with their training. TQM aims to hold all parties involved in the production process as accountable for the overall quality of the final product or service. [14]

OR

TQM refers to management methods used to enhance quality and productivity in business organizations. TQM is a comprehensive management approach that works horizontally across an organization, involving all departments and employees and extending backward and forward to include both suppliers and clients/customers. [15]

OR

TQM efforts are based mainly on the previously-developed tools and techniques of quality control. It consists of organization-wide efforts to install and make a climate permanent in which an organization continuously improves its ability to deliver high-quality products and services to customers. [16]

OR

TQM may be defined as- "It is continuously meeting agreed customer requirements at the lowest cost by realizing the potential of all employees". It may also be defined as performance superiority in delighting customers. The means used are people, committed to employing organizational resources to provide value to customers, by doing the right things right the first time, every time. Therefore, TQM means:

1. Satisfying customers first time, every time;
2. Enabling the employees to solve problems and eliminate wastage;
3. A style of working, a culture more than a management technique;
4. Philosophy of continuous improvement, never ending, only achievable by/or through people. [17]

T.Q.M. involves

Focus on the customer: It is important to identify and focus on the organization's external (consumer) and internal (employees) customers because they consume the organization's product or service.

Employee involvement: The employees should be involved in quality initiatives and innovate and improve quality is totally based on employee. Front line employees have the closest contact with external customers and thus can make the most valuable contribution to quality.

Continuous improvement: The improvement and maintenance for quality is a never-ending process. Peoples continuously work to improve the performance, speed and number of features of the product or service in an organization to improvement and maintain quality. Continuous improvement means that small, incremental improvement that occurs on a regular basis will eventually add up to vast improvement in quality. [18]

Eight elements of T.Q.M.

Following eight elements are essential for successful implementing TQM in any organization which are further categorized into four groups according to their function. [19]

Table 1 : Eight elements of T.Q.M.			
S/NO.	**Element**		**Groups**
1	Ethics	Integrity	Trust	Foundation
2	Training	Teamwork	Leadership	Building Bricks
3	Communication			Binding Mortar
4	Recognition			Roof

Table 2 : Eight Elements of T.Q.M		
I.	**Foundation**	Ethics, integrity and trust are the foundation of TQM to promote openness, fairness and sincerity. TQM allows involvement by everyone and each element offers something different concept to the TQM.
A.	**Ethics**	Ethics concerned with good-bad or right-wrong in any situation. It is like two faces of a coin and is represented by organizational and individual ethics. Organizational ethics indicate guidelines that all employees are to adhere to in the performance of their work. Individual ethics include personal rights or wrongs.
B.	**Integrity**	Integrity implies honesty, morals, values, fairness, and adherence to the facts and sincerity. It is customer's internal or external expectations and deserves to receive.
C.	**Trust**	Trust is a result of integrity and ethical conduct. Trust promotes full participation of all members and without it the framework of TQM cannot be built. It is also essential to ensure customer satisfaction.
II.	**Bricks**	The strong foundation of trust, ethics and integrity, bricks are placed to reach the roof of recognition which includes:
D.	**Training**	Supervisors are solely responsible to run and implement TQM within departments, and teach philosophies of TQM to employees for high productivity. Training of employees are to improve interpersonal skills, the ability to function within teams, problem solving, decision making, job management performance analysis and improvement, business economics and technical skills.

E.	Teamwork	Teamwork is a key element of TQM for successful business and so the business will receive quicker and better solutions to problems. Teams also provide more permanent improvements in processes and operations. TQM organizations adopt three types of teams, named quality improvement teams or excellence teams (QITS), problem solving teams (PSTS) and natural work teams (NWTS).
F.	Leadership	It is most important element in TQM. A supervisor must understand TQM and provide an inspiring vision, strategies, philosophies, values and goals to provide focus, clarity and direction to improve quality.
III.	Binding mortar	
G.	Communication	It acts as a vital link between all elements which starts from foundation to roof of the TQM house and everything is bound together by strong mortar of communication. Communication is proper and total understanding of ideas among all the organization members, suppliers and customers. There are different ways of communication such as downward communication (dominant form of communication in an organization like presentations and discussions so supervisors are able to make the employees clear about TQM), upward communication (lower level of employees are able to provide suggestions to upper management to provide insight and constructive criticism to correct the situation that comes about through the use of TQM. It also forms a level of trust between supervisors and employees and sideways communication (it breaks down barriers between departments and allows dealing with customers and suppliers in a more professional manner).
IV.	Roof	
H.	Recognition	Recognition is the last and final element in the entire system which is provided for suggestions and achievements for teams as well as individuals. Recognition comes in different ways (award banquets, plaques, trophies), places (good performers can be recognized in front of departments, on performance boards or in front of top management) and time (Recognition like at time of in staff meeting, annual award banquets).

Table 3 : 6 Cs OF T.Q.M. essential to successfully implement the TQM		
1	Commitment from employees	The TQM policies shall be binding on all employees of the organization form quality improvement.
2	Quality improvement culture	There must be a Quality Improvement Culture in the organization to be modernized on a continuous basis to encourage employee's feedback which ensures employee comfort towards effective administration of allotted work.
3	Continuous improvement in process	TQM is a continuous process and not a program which requires constant improvement in all the related policies, procedures and controls laid down by the management.
4	Cooperation from employees	The experience and cooperation of the employees are utilized in the development of new improved strategies and performance measures.
5	Focus on customer requirements	In today's market, customer requires and expects perfect goods and services with zero defects so TQM process must be prepared by focusing on customers' requirements and their expectations from the products and services to survive in long-term and to build prominent relationship with the customers.
6	Effective control shall be laid down	The checklist of control policies (monitoring and measuring the business performance) must include all documents or manuals of the current best business practices to rectify the deficiencies, if any, in the business process.

Advantage of TQM
- Improves reputation by identifying and sorting the faults and problems.
- Higher employee morale by motivation of workers by extra responsibility, team work and involvement indecisions of TQM
- Lower cost by decrease waste as fewer defective products and no need for separate.
- Quality control inspector [17]

Disadvantage of TQM
- Initial introduction cost.
- Benefits may not be seen for several years.
- Workers may be resistant to change. [17]

TQM at a glance
- It is a strategic technique for continuous improvement in the quality of products and services.
- It is an approach to achieve long-term success through customer satisfaction.
- Six Cs of TQM are very important and are required for its successful implementation. [16]

Imperativeness of TQM in Pharmacy colleges

Due to deteriorating standards in Pharmacy Education it has become necessary to bring quality in each aspect and every activity of the Pharmacy institution. In order to meet ever-changing requirements of the pharmaceutical industry the quality of Pharmacy Education must be standardize and evaluated time to time according to specified rules and regulation made by statutory bodies.

Every college should provide the students an atmosphere to nourish his internal skills and qualities so that each and every student gets an opportunity to freely think and develop his skills to the maximum. Professionalism can be developed only through rational ways of thinking and performing so their ideas and suggestions in any aspect of education and especially be focused on innovative research comes out. Most of students lack an initial pull and require motivation, which should be given by the teachers or by the college to improve their presentation skills and their personality. [18]

Coming to the educational aspect, much emphasis should be given to industrial, practical exposure and knowledge of various guidelines. Practical/research oriented way of learning is much more effective than mugging up a lot of theory. The knowledge of a pharmacy student should be current and always the up gradation of his knowledge is necessary. A student should learn to evaluate himself and try to continuously improve his knowledge levels. Each and every person

being a part of an institution should be aware of the task assigned to him and be committed to do the work in a perfect manner. Here we are discussing mostly about the changes that should be introduced at the educational aspect. Here comes the importance of commitment and awareness which are the strong elements of TQM.

Principles of TQM relevant to Pharmacyinstitutions

The principles of TQM are universal for improving the quality of any product/services and these principles can be applied to improve Pharmacy education as well with little modifications according to type of college.
- Teaching aims and objectives should be clear, worthwhile and suitable to students and employer's needs and according to scenario requirement by industries/jobs
- Curriculum Policy should encourage new methods to promote learning
- Staff development including appointments, induction, appraisal and development
- Employer's contribution to curriculum design, delivery and outcomes
- Comprehensive, innovative, and flexible pharmacy educational system
- Organize pharmacy educational programme, seminar and guest lecture
- Move from a theoretical to a practical application oriented pharmacy education conceptually
- Quality assurance in Pharmacy education and accountability of faculty, supporting and other staff and administration [17,19]

Pharmacy intitutions goals
- Implementation of Institution's approach to quality assurance and enhancement in an efficient and effective manner
- Ensure a commitment not only to quality assurance but also to the enhancement of the quality of the student experience
- Establish a comprehensive self-evaluation system in the field of quality control in the College
- Demonstrate that standards of programs/courses are appropriate and meet the requirement of Quality Assurance and other external benchmarks [15]

Functions and responsibilities
- Develop a system to control and review the effectiveness of the College's quality assurance policies and procedures and consider the annual review of programs of study

- Validation and approval of new of programs of study through the academic board
- Student representation and feedback
- Assessment procedures like written/oral tests
- Staff development and training
- Prepare an annual report and a quality handbook.
- Advise and assist academic and service units in carrying out self-assessment procedures
- Manage responses to the requirements of external quality agencies
- Ensure the effective implementation of college systems for the comparability of the standards of programs of study - with reference to standards across and within disciplines.
- To prepare forms and surveys for data entities.
- To advise on any other matters this may from time to time be determined by the Academic Board. [14]

Flaws in the present system
- Entry of unqualified and non-meritorious students into the course
- Biasing by entry of unqualified and non-meritorious faculties to maintain team
- Unspecialized and non-focused way of teaching and learning
- Out dated curriculum, educational regulations and notes/lecture material/way of teaching
- Lack of practical/industrial/clinical exposure
- Unskilled ways of practical and lab training
- Research output from Indian educational labs rarely lead to commercialization and revenue generation [13]
- Institutional base of research in India is extremely narrow serious research is limited to a few 'elite' institutes

Quality Assurance Management
Quality assurance management can be defined as the management of all quality related project activities. The quality assurance is totally based on the quality of a product. The main work of a quality assurance manager or a project manager is to make sure that the quality plan is implemented according to the plan as well as to check whether all the objectives of the project have been achieved or not.

The chief principles of quality assurance management are fulfillment of adequate technical needs, quality of suppliers, check the product for its quality, performance, safety, and reliability standards, proper usage of materials, surety of product's technicality, reliability, maintainability and performance requirements. A talented quality assurance managers brings many job opportunities for the students to serve the purpose, a number of management institutes in India have included courses in quality assurance management. [12]

Quality Assurance and improvement
- The quality assurance and improvement strategy involves all parts of the institution, is led by a senior staff member as a major responsibility, and includes staff from all areas.
- The institution's quality assurance system is fully integrated into the normal planning and development strategies in a defined cycle of planning, implementation, assessment and review.
- All administrative units and sections within the institution, including the governing body, are included in the process of quality assurance and improvement.
- Procedures involve continual monitoring of achievement of objectives as well as periodic self evaluation with results reported.
- Each administrative unit establishes appropriate and challenging objectives which reflect the mission and linked to specific performance indicators.
- Objectives which reflect the mission and are linked to specific performance indicators.
- Performance evaluation includes comparisons with comparable institutions selected to provide appropriate benchmarks for significant activities.
- Institutions selected to provide appropriate benchmarks for significant activities.
- The self review process incorporates feedback from individuals external to the institution in a planned program of reviews. [15]

Academic Quality Assurance Principles
- Supervision, maintenance and development of all quality assurance procedures in the College are within the remit of academic board
- Quality assurance procedures are general policy statements, subjected to development, validation, monitoring and review of programs of study in any College
- Well-established college set of principles within which these structures and procedures are operated:
- Evaluation of academic quality is performed at the closest point possible to the actual process of teaching and learning

- Continuous processes characterize quality assurance in the college
- Quality assurance in the college is a dynamic process and is closely linked with other internal processes
- Quality assurance is proactive and forward looking rather than retrospective and reactive
- Quality assurance in the college is responsive to national developments [17]

Continuous Improvement and Self evaluation

TQM emphasizes self-evaluation as part of a continuous improvement process. In addition, this principle also laminates to the focusing on students' strengths, individual learning styles, and different types of intelligences.

Managing Total Quality

TQM – a real and meaningful effort and most pervasive approach to managing quality by an organization to change its whole approach to business to make quality a guiding factor is everything the organization does. The major ingredients in TQM are following:

Strategic Commitment: The strategic commitment by the management is start point for TQM. Firstly the organizational culture must change to recognize and to attain an objective goal. Secondly, a decision to pursue the goal of quality carries with it some real costs – for expenditures such as new equipments and facilities.

Employee Involvement: Involvement of all employees is another critical ingredient in TQM for all successful quality enhancement programs involve making the person responsible for doing the job responsible for making sure it is done right.

Materials: Improvement in quality of the materials that organization uses is an important aspect like paper, OHP slides, computer, LCD etc.

Technology: Investing in higher-grade machine capable of doing jobs more precisely and reliably often improves quality is also useful in TQM programs.

Method: Improved methods can improve product and service quality of product/services in any organization during the actual transformation process. [13]
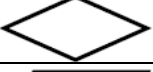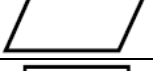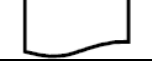
Management Tools (Process Analysis, Planning, Decision Making)

To meet customer requirements/service it is important to clear vision, mission and value statements to analyze the organization's processes and provide the information needed to develop activity specific policies, procedures, and work instruction to carry out the TQM. Popular decision making tools like flowcharts, cause-and-effect diagram, brainstorming, histograms, SWOT (strength, weakness, opportunities, threat) analysis, Pareto diagram etc to plane, evaluate and continuous improvement activities. [14]

Flowcharts:

A **flowchart** is a type of diagram which represents an algorithm or process which represent illustration of a solution of any given problem. Steps are placed in boxes of various kinds which are connected with arrows according to sequencing of operations. These are used in analyzing, designing, documenting or managing a process or program in various fields like designing and documenting complex processes or programs and helps to visualize what is going on and thereby help the viewer to understand a process, and perhaps also find flaws, bottlenecks, and other less-obvious features within it. There are many different types of flowcharts, and each type has its own repertoire of boxes and notational conventions. [16]

Table 4 : Some commonly used symbols in flowcharts		
TERM	**SYMBOL**	**PHENOMENON/FUNCTION**
PROCESS		Represents process or activity (writing a memo, purchasing equipment, or interviewing a job candidate)
ALTERNATE PROCESS		Represents an alternate process [external (versus internal) or static (versus variable)]
DECISION		Point at which a decision must be made.
INPUT/OUTPUT		Information that goes into or comes out a process. [input (orders and inquiries), outputs (reports, products0]
DOCUMENT		Activity recorded/documented (file/printed).

| CONNECTOR		Links a shape to another point in the flowchart without using a line. A letter or number elsewhere in the circle corresponding letter or number elsewhere in the chart. It is also used to connect multiple lines at one point.
TERMINAL		Indicates the start or end of a process. The beginning terminal is labeled with "start" or "begin". The ending terminal is labeled with "stop" or "end".
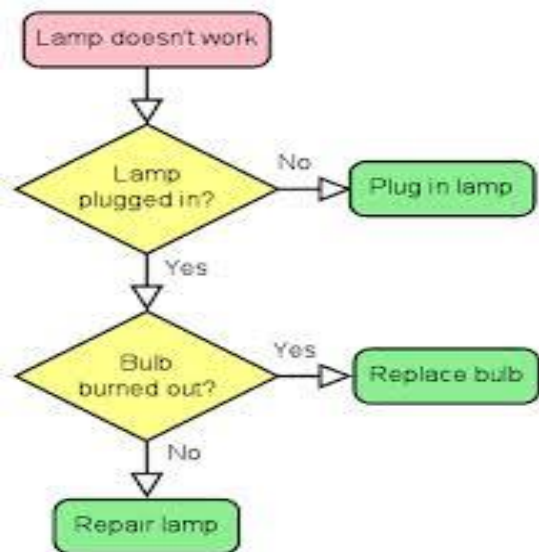
Fig. 1: Flow chart to switch on the lamp

Cause-and-effect diagram: Ishikawa diagrams, fishbone diagrams, herringbone diagrams, Fishikawa are synonyms of this diagram that shows the cause of a specific event and mainly referred in product design and quality defect prevention, to identify potential factors causing an overall effect. [16]
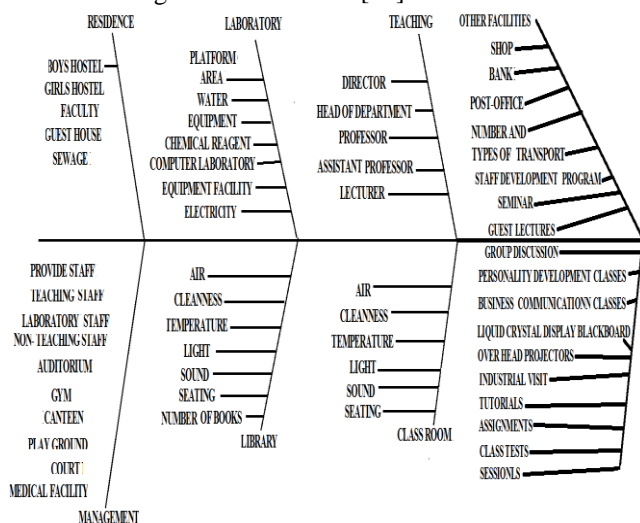

Fig. 2: Cause and effect diagram of college

Histograms: It is a graphical representation of the distribution data in tabulates frequencies to estimate of the probability distribution of a continuous variable. In histogram adjacent rectangles, erected over discrete intervals (bins), with an area equal to the frequency of the observations in the interval. The height of a rectangle is also equal to the frequency density of the interval, i.e., the frequency divided by the width of the interval. The total area of the histogram is equal to the number of data. [16]
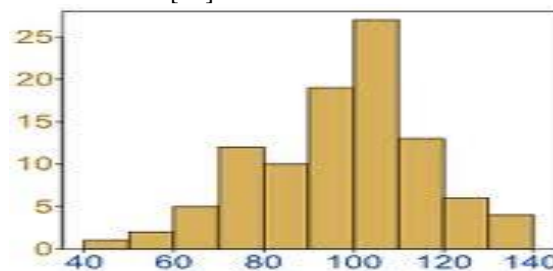

Fig. 3: Histogram

Brainstorming: Brainstorming is a group or individual creativity technique by which efforts are made to find a conclusion for a specific problem by gathering a list of ideas spontaneously contributed by its member(s). It is more effective than individuals working alone in generating ideas, although more recent research has questioned this conclusion. The two principles, defer judgment and reach for quantity, contribute to ideative efficacy and these were established with intention to reduce social inhibitions among group members, stimulate idea generation and to increase overall creativity of the group by focus on quantity, withhold criticism, welcome unusual ideas, combine and improve ideas. It is applicable to address a specific question because problem must require the generation of ideas rather than judgment. [16]

Fig. 4: Brainstorming

SWOT (Strength Weakness Opportunities Threats) Analysis

	Table 5: SWOT analysis to establish pharmacy organization
Strength	Location, student stuff, skilled staff, available capital, developed programs, flat structure, transport
Weakness	Internal dissention, new leadership, change in teacher, shuffle of subjects, turnover in key position, regulatory compliance problems, research and development problems, vacant positions, internal politics
Opportunities	Leadership improvement, new market, possible new product, EMS development, may buy competitor, possible legislative changes
Threats	Foreign competition, market swings, possible leveraged buyout, new competition, environmental regulatory court case, slow markets

FADE: FADE (Focus, Analyze, Develop, and Execute) process which was popularized by the TQM movement. In this process, the information developed during brainstorming is organized and analyzed. The participants focus on specific topics, analyze these topics, develop solutions, and execute those solutions. The left vertical axis is the frequency of occurrence, but it can alternatively represent cost or another important unit of measure. The right vertical axis is the cumulative percentage of the total number of occurrences, total cost, or total of the particular unit of measure. This is a cyclic process. It can be start all over again by evaluate the impact of change made, by focus down further, by analyze the problem to find the root cause(s), by developing methods for further improvement, finally Execute and Evaluate again. Process is repeated until the goal is achieved. [16]
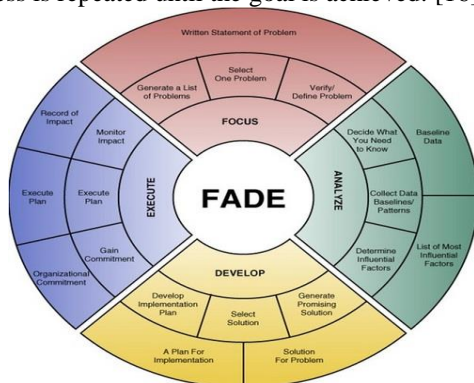

Fig. 5: FADE (Focus, Analyze, Develop, and Execute)

Pareto Diagram: It contains both bars and a line graph, where individual values are represented in descending order by bars and cumulative total is represented by the line. The purpose of the Pareto chart is to highlight the most important among a (typically large) set of factors. In quality control, it often represents the most common sources of defects, the highest occurring type of defect, or the most frequent reasons for customer complaints, and so on. Later an

algorithm was designed for producing statistically based acceptance limits (similar to confidence intervals) for each bar in the Pareto chart. These charts can be generated by simple spreadsheet programs, such as OpenOffice.org Calc and Microsoft Excel and specialized statistical software tools as well as online quality charts generators. The Pareto chart is one of the seven basic tools of quality control. [16]
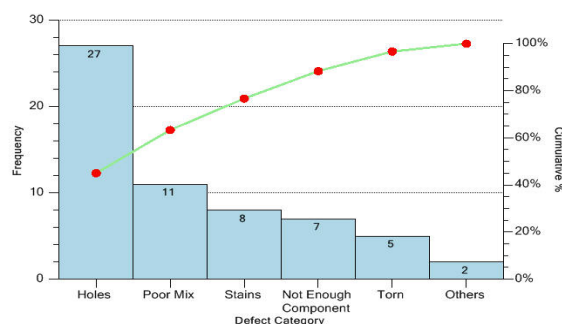

Fig. 6: Pareto Diagram

An emphasis on application of TQM in Pharmacy
Here some facts are discussed which can improve the current situation in pharmacy education by emphasizing on the tool TQM. Education is a fast moving commodity in the market and it also upholds some ethics so that the customer (students) gets the value for the money which they spend. The principles enunciated in TQM are universal and they can be utilized for improving the quality of any product/services/effectiveness of an organization by involving every individual at every level within the organization to work together for continuous betterment of quality. [17]

Principle of Harmonization
TQM can be applied at each and every levels of hierarchy of pharmacy institution, which should work in a harmonized manner towards the same goal improving the quality of service provided to the students (customers) and thereby improving the quality of the institution. Proper coordination between the

different levels makes a system more powerful and successful. As TQM is a continuous process of improvement so sticking on to some particular standards or regulations is not at all sufficient because continuous improvement is always required. Upper level like monitoring committees must continuously monitor the functions of the lover levels and evaluate the functioning of each hierarchy level and prepare a report which should be discussed in the group. [19]
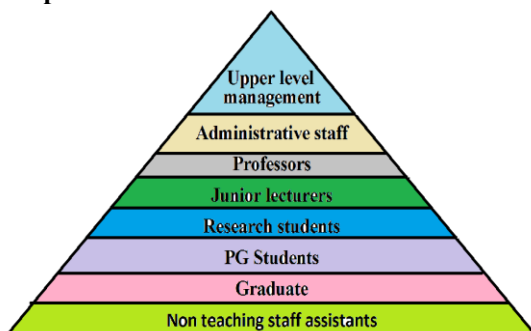
Principle of Harmonization

Fig. 7: Hierarchy in Pharmacy institution

Importance of monitoring committee reports

- It indicates the functioning of every and each hierarchy levels
- Identifies the flaws in the system and discussion them to sort out
- Continuous evaluation and improvement of the education system
- It a record regarding the progress of the levels with their concerned work aspects [19]

Relation between the different levels

The functions of each and every level are interrelated and inter dependent. The levels which are directly linked with the students (customers) are the faculties who perform the most important task in the whole system because the quality education can build the confidence, practically applicable knowledge and thoughts in students and make them more intellectual. It's all possible only with availability of qualified and experienced staff in an institution. The Experienced staff in the organization gives excellent atmosphere for learning in a more focused and interesting way to students. All activities related with improving the quality of education in an institution like guide the junior staff regarding and help junior staff to improve their ways to teaching and guidance, must be govern and supervised by senior staff. Similarly the senior students of the college should lend a helping hand to their junior students to improving their quality. To make availability of qualified staff to the students is the job of upper level management. Team work is always

more easy, effective and better rather than individual efforts. The assistant staff in the college has also an important role to play because they are directly linked to the students by helping them in doing their practical and research works in laboratories. Team work is essential in every aspect of educational life in a college. [19]

Self-evaluation charts (SEC)

SEC is a simple concept but it is a powerful tool and is an important aspect of TQM to make every student being capable of evaluating themselves for continuously improving their quality by understanding of their strength and weakness. SEC is a statistical data which is prepared by every student in the form of a flow chart or a graph which is an indication of his progress in education related aspects. Periodic analysis of the chart must be done by the teacher in the presence of the student to make healthy discussions and give suggestions to improve their quality.

Applications of SEC's

- Student gets the opportunity to evaluate himself and perform SWOT analysis for themselves
- Indication the progress of student in academics or related activities
- Helpful to faculty members to analyze the progress and performance of a student in academics like recording the marks of a student in a particular session/seminars/assignments [15]

Seminars and presentations as powerful tools in quality education

Seminars and presentations are important tools in improving the quality, self confidence of student, professionalism, development intellectual skills of students in education in an institution. Seminars should be given especially on the topics which are of current importance and recently under research and must be compulsory from graduation level and should be a criterion for evaluation of the students. [14]

Benefits

- Improvement in understanding of the subject
- Development of research oriented attitudes in students
- Improvement in presentation, listening, reading and writing skills of the students
- Built spirit of professionalism
- Overview of subjects in an easy and comfortable way
- Students become keen to learn

- Sharing of information becomes easier and the subject becomes more digestible to the students. [11]

Suggestions

A transformation from mastery learning to smart learning

Table 6: Traditional classrooms
Plan
Teaching
Test

Table 7: The TQM alternative		
PLAN: A	**PLAN:B**	**PLAN: C**
Plan	Plan	Plan
Teaching	Teaching	Teaching
Discuss	Check	Assignments/tutorials
Seminar	Revised	Check
Test	Class test	Revised
Rediscussions	Find the pross	Class test
Test	Rectify the knowledge of student	Find the pross
	Evaluate/test	Rectify the knowledge of student
	Sessioanl exam	Evaluate/test
	Rectify the knowledge of student	Sessioanl exam
	Semester exam	Rectify the knowledge of student
		Semester exam

Professional discrimination due to lack of clinical exposure

Generally institute focuses on theoretical aspects rather than practical knowledge and exposure. It is the main reasons for the discrimination and degradation in knowledge of pharmacy professionals in the country. For up gradation of education, case studies must be included at graduation level with more focused and enriched in practical to get recognition in medical field and health care system in India. The hospitals give a direct and practical exposure to professionals so working with some case studies can be better to cater health care system and also to understand how the theoretical knowledge can be applied to practical work outs. [10]

Counseling and community service centers

An educational institution should provide such a stress free environment for learning and for nurture and development of intellectual skills to student but the situation varies a lot in many institutions. The students are under stress due to the over loads work and inefficient time management so totally the academic life becomes horrible for them. Every college should have a counseling centre to address the problems of students in their academic and personal life. The centre should hire the services of some persons eminent in this field and also the lectures and senior students of the college should be involved in the functioning of the counseling centre. Benefits of counseling centre:

- Opportunity to share problems of students
- Students get solutions for their queries in academics and personal life
- Improvement in confidence of the students
- Mental strengthening and creation of stress free atmosphere by student to him/herself and for other collogue too
- Overall improvement and development in the student intellects
- Creation of some smart professionals in the institution [6,7,8]

What is community service learning?

Community Service-Learning (CSL)/service-learning/community-based learning is an educational approach that integrates service in the community with intentional learning activities in which members of both educational institutions and community organizations work together toward outcomes that are mutually beneficial. CSL programs are most effective when they include key elements drawn from experiential education theory, especially developing critical thinking and intentionally facilitating reflection. Carefully designed and implemented CSL programs and courses assist students to make meaning from their community experiences, to connect experience outside of the classroom to more theoretical study, and to develop as individuals in relation to their values, their sense of social responsibility, and their leadership skills. [10]

Quality Teacher

The role of teachers in academic life of students is very important because he is in direct contact with students and is responsible to guide students to improve their intellectual and learning skills. A good faculty always updates his knowledge and be aware of all the novel innovations in the field of pharmacy to let students understand regarding well organized theoretical and practical knowledge in such a way that student skill grows towards intellectually. Faculties must also improve their ways of teaching and guiding the students to create a warm and very productive learning environment in the institution concerned. The TQM

concept provides the use of more brain compatible techniques in teaching. [11]

Conclusion

The article emphasizes on TQM and its implementation, application and some suggestions for improving in education. By providing skilled faculties, providing stress free environment, by using new teaching method the quality of education can be improved to meet daily changing scenario of pharmacy. Improved results can be obtained with change in class, teaching and evaluation pattern.

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