An urge for Quality and Quality Assurance of basic nurse education, Pakistan: The Leadership perspective

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ABSTRACT

Background: Quality assurance has become absolutely crucial in nurse education to ensure its quality for the delivery of safe and high quality nursing care. The need further propelled by market forces which demand competent nurses for dynamic complex health care delivery systems, policies, regulations and professionalisms. However, until now, there is a little evidence to support the existence of a comprehensive, agreed by all stakeholders and regularly applied quality assurance (QA) system to ensure quality of basic nurse education (BNE) in Pakistan.

Aim: This paper describes the experience and beliefs of a group of nurse leaders in relation to the quality and quality assurance in the BNE and their desire to establish an appropriate system to ensure quality of nurse education.

Method: The data drawn from a qualitative case study conducted in 2004. Among a sample of 71 nurses from various level of nursing, a group of eleven nurse- leaders from all over the country were interviewed on one-to-one basis. A semi-structured, open-ended questionnaire concerning concepts of quality of education, on-going QA system, its effectiveness along with suggestions for improvement was used. Hermeneutic approach to do thematic analysis of verbatim transcripts of interviews was applied.

Findings: First time this study initiated discussion and studied the experiences and beliefs of nurse leaders on quality and quality assurance in the BNE. The findings reveal a unanimous desire of the nurse leaders to gauge quality of nurse education through efficient and effective quality assurance system.

Conclusion: The findings provide initial insights into the existence situation and discern the need for an appropriate system in place to ensure quality of education. A continuous quality improvement (CQI) framework based on Plan-Do-Check-Act (PDCA) cycle or certain aspects of it can be used to determine `what to establish` and `how to implement` a desired QA system.

Introduction

Often the terms efficiency, effectiveness, equity and quality are used synonymously[1]. A considerable consensus exists around these dimensions in establishing a contextualize understanding on the concepts of quality education. Quality concepts of education as defined by various authors [2, 3, 4] include:

- Availability of appropriate and effective learning opportunities, teaching support and assessment

methods to help students in achieving their award

- Institutions are consistently meeting the defined educational standards in relation to students' goals and mission
- Education provision is appropriate to satisfy the specific needs of the students and enable them to achieve their level of excellence
- Totality of features and characteristics of a service which satisfies stated or implied needs, overall suitability of an institutional provision, standards, goals and missions

The concept of quality in the modern world is conceptualised as exception, perfection, value for money and transformation[6]. Currently, customer-driven quality concepts in education imply well identified, specified and accepted procedures and processes to ensure that students' needs are being fulfilled.

The concepts of quality in higher education bear the same value and importance in the nurse education. In nursing education, the quality is expected to be the extent to which nurses are to be prepared as the profession desires. The National League for Nursing Accrediting Commission, USA[7] in its accreditation manual defines quality as ensuring high levels of students learning and achievement. The Department of Health, UK[8] views quality as that the nurse graduates are competent and worthy of a licence to practise nursing and meet the satisfaction level of the nursing clients.

The rapid and wide ranging changes in nurse education in tandem with concepts of quality management and improvement have given rise to the development of new approaches of quality assurance. The primary purpose of

quality assurance is to monitor, evaluate and improve quality of care delivered by health care providers[9]. Assuring quality of nurse education has become absolutely crucial now for the delivery of safe and high quality care to the nursing clients. The need further propelled by market forces which demand competent nurses to respond to complex health care delivery systems, policies, regulations and professionalisms [10]. Quality assurance in nurse education is designing and implementing effective strategies for monitoring quality, correcting systemic deficiencies, refining existing methods of teaching and learning through applied research[11]. The College of Nursing Ontario[12] defines it as a mechanism to asses' performance on an on-going basis and promotes continuing competence among the profession as a whole. Quality assuring is to ensure competent and professionally prepared graduates who received education at the highest level of possible standards [13, 14]. According to Indian Nursing Council [15], key components of quality assurance are planning for quality, developing strategies, standards, criteria, indicators and ensuring their compliance by the nursing institutions. National Board of Nurses, Midwives and Health Visitors, UK[16] stresses that quality assurance is developing and maintaining quality standards which are flexible to respond to changing context.

However, in Pakistan, yet there is a little evidence to support the existence of a comprehensive, agreed by all stakeholders and regularly applied system which assure quality of a three year basic nurse education programme being offered in nursing schools. The nursing council (NC) as the regulatory body accrediting schools through the inspection system which usually confirm predetermined minimum requirements set for schools. One of the goals of nurse education

stated by the council in the basic nursing curriculum [17] is:

To provide the students opportunity to gain scientific knowledge, develop technical skills and to acquire professional attitude

The current inspection system does not demonstrate the extent to which nurse graduates are prepared to achieve this goal. The inspection system is also lacking to ensure:

- Full implementation of the curriculum
- Achievement of curricular objectives
- Appropriateness of educational and clinical environment
- Adequacy of teaching, learning and assessment methods, tools and strategies
- Existence of benchmarking standards of education

The current system also does not provide evidence that the students' learning is appropriate to the needs of nursing clients. The shortcoming of inspection-based practice is resulting to an increase demand for the development of appropriate quality assurance approach that assists to accommodate the emerging needs of the students. Furthermore, it could provide necessary information to advocate for resources and gives sound reasons to have them appropriately. Inspection is still central to many of the quality assurance approaches but the complex organisations and services that require intense human contact cannot be assured by inspection alone [18].

Method

The data is drawn from a qualitative case study conducted in 2004 as the part of a degree programme of Doctor of Philosophy. Among a sample of 71 nurses from various level of nursing, a group of eleven nurse leaders were interviewed. These leaders were holding top management positions with the federal & provincial health departments, nursing council and nursing federation. They have had wide national as well as international experience in their respective role and were responsible to plan, develop and ensure compliance of nursing rules, regulations, and policies for both-education and practice.

The group of these nurse leaders was interviewed on one-to-one basis. The non-directive interviews were guided by exploratory, semi-structured and open-ended questionnaire. The questionnaire facilitated the nurse leaders to reflect their experiences, beliefs and perceptions in relation to the concepts of quality of education, on-going quality assurance system and its effectiveness and suggestions to improve the current system. The interviews were audio taped to reduce the risk of any misinterpretation and facilitate the exact description of data as it was said. Thematic analysis of verbatim transcripts of the interviews was done.

Findings

The findings fall within three main themes that reflect the experiences, beliefs and perceptions of nurse leaders on the quality of education and on-going quality assurance practice in the BNE. The themes are narrated as:

- Compromising resulting into half baked institutions
- Frequent knocks on the door to come in
- Replace `Should` with `Must`

Compromising resulted into half baked institutions

The nurse leaders' concepts of quality of education chiefly revolved around the expected level of knowledge and the skills of a nurse that she would have after the completion of her education programme. They visualised a qualified nurse as someone who:

- have a positive personality, technical, professional knowledge and skills
- confident person, fully committed to her job, assertive
- able to communicate with patients and doctors effectively
- able to understand patients' needs and be able to provide a holistic care
- achieve objectives which are indicated in the curriculum

The nurse leaders perceived that the quality of education is not up to their expectations. Some of their impressions were as follows:

---------a graduate cannot write an application, sometimes I become so depressed to see this much poor level --------,

Believe me, I met a group of nurses who do not know the normal range of a blood pressure and a temperature of an adult human

Why I should tell a lie about a fact that nurses have no concept of a comprehensive patient care

Due to many factors, the quality of education is extremely low and I am very disappointed with this level

The education system does not prepare nurses for their roles properly, in particular to work in the community

The quality level can be seen from the fact that only 14% of the nursing candidates were able to pass the test for higher education abroad

Four key elements in relation to quality were recognised as:

Firstly the quality of the NC plans regarding the BNE, secondly an expected role of a nurse, thirdly the quality of the curriculum and finally the characteristics of the institution that has to impart an education programme

It was mentioned:

Actually when we talk about quality, we need to consider the objectives given in the curriculum. The level of the achievement of the objectives will indicate the level of the quality of education

From the nurse leaders' point of view, one of the key barriers to achieving a desired level of quality is making compromises on whatever is observed by the inspectors during the inspection process. The situation reflected as:

making a compromise on whatever is observed during inspection and not reporting it boldly have glitched the improvement of the quality. There is a compromise on the faculty, compromise on the teaching aids and on the other strong assets of the education. The consequence of the `compromises` led to `half baked institutions` that were recognised as `fit` for imparting education

Another similar opinion was:

Unfortunately, we do not achieve the education objectives. I feel, there is a compromise on quality matters. The current inspection system does not make any difference. Firstly, it does not turn out for years. If it is there, it does not explore in depth and ignore to examine the important aspects of the education. Usually, the current system------- has no concerns with quality matters

Inspectors were seen as:

------that they focus on quantity and satisfied with their underlying concepts that something is better than nothing and do not highlight the deficiencies

Many of nurse leaders view the current inspection system ineffective which failed to maintain the given standards of education in the schools. Some of the reasons they narrated are:

- absence of a comprehensive inspection system

- unprepared inspectors

  - facts are not reported boldly
  - an ineffective; less-developed inspection system, excluded a checklist to have detailed information
  - non-existence of evaluation and monitoring system
  - inspection does not turn out for years
  - neither rewards nor incentives for those who work hard

- system lacks clear standards, policies or protocols to assure exactness of the activities
- Inspection focus is on the general appearance of the physical infrastructure and no concerns with quality matters
- inspectors are not straight enough; they hide the realities and try to accommodate the host

A commonly held view was:

There is an ineffective, less-developed inspection system. It has a rudimentary type of inspection pro forma that excluded a checklist to have detailed information. Inspectors do not know what to inspect and how to report. The reports are very sketchy, I would not say, poor but unsatisfactory

A similar comment was:

First, there is no evaluation and monitoring system. If it exists it is very weak. It has no value because of its failure to highlight the strengths and weaknesses. There are neither rewards nor incentives for good work ------- each one is doing according to his choice. Besides that the current system lacks clear standards, policies or protocols to assure exactness of the activities

Current inspection process clarified as:

-----It is the inspection process on which we mostly rely but it does not reveal a true picture----there is a futile process to collect information

The dearth of the effectiveness of the current system was recognised as:

There have been many schools waiting for inspection for ten years---- the current process----closes eyes on the key elements of the education. Inspectors do not bother to see the students' academic results, their clinical placement plan and the teacher-student ratio

Regarding student-teacher ratio and for preparation of teachers, it was mentioned:

---- teachers are fewer in the schools; for 200 students there will be hardly 5 or 6 teachers

teachers are neither able to meet the emerging needs of the students nor are they interested in improving themselves

Inspection reports do not highlighted the low level of available resources which was considered as hindrance to quality:

Deficient resources, I mean budget, teachers, teaching aids, books, and transport facilities impede the enhancement of quality--- limited administrative power of the principal restricts her to re-adjust money from different budgetary sections

Regarding students, comments were:

Students are busy with their laborious work ---- ---become tired of lengthy duties and these poor students then cannot study

Clinical experience of students reflected as:

-------The neglected students hanging there do not know where to go and are even stubbed if they raise their concerns

The nursing leaders as the executive members of the council feel discrepancy in terms of their role interpretation. Being the employees, they expressed themselves more inclined towards their respective governments and generally were unsuccessful in enforcing the institutional compliance with the council's policies.

Generally for the provincial nurse leaders----- - their provincial matters are always on priority-----they are usually laid-back on the national issues. In these circumstances, uniformity to implement national policies is expected of them

Frequent knock on the door to come in

To rise up from the current situation, the nurse leaders advocate that:

Unless there is a frequent knock at the door, it will not be opened. I would prefer that each school is to be inspected twice a year. The best times for inspections are when the budget proposals are prepared and submitted to the government and when budget has been allocated to the school. The former would give the principals the clues to consider the desired educational needs in the proposal and the latter would help the inspectors to ensure whether the budget provision meets the needs

They consider leadership role vital to make progress:

--------if the nursing directors would be willing to improve education, there would be

no obstruction---In particular, the firm decisions and actions would be vital to shake the lodged institutions.

Another view was:

The experiences have shown that if move then progress. Nothing would be achieved without a push to get things done rightly

The NC was placed in a pivotal role to ensure the existence of an agreed, comprehensive quality assurance system and its implementation. The commonly held views were that the nursing council should:

- keep eyes on the schools and do inspection at each quarter of the year
- persistently follow up inspection reports until actions are taken
- pressurise schools to take corrective measures, derecognise the schools that do not impart education at the given standards
- not hesitate to take liberal decisions and be firm in its decisions

The Nurses Federation (NF) was also expected to play its role in the enhancement of the quality. A participant thought:

The Federation should lobby for------ appropriate number of positions and welfare of nurses.

A suggestion made that:

A collaborative approach of the NC, the NF and the Nursing Directorates could have

gained maximum benefits if they had given a thought to it

Strong nursing leadership was felt as indispensable to change the present scenario. The perceptions were:

A strong nursing leadership is the need of the hour. An appropriate competency level with polished political skills of the nurse leaders could have a positive impact on the nursing

The leadership should come from nurses who should work for nurses -----a day comes when a nurse is at the top position but there is a long road to go. Take the first step on the ladder and would hopefully arrive at the destination

Replace `should` with `must`

The leadership urged to have a system in place that continuously ensures the adequacy and the appropriateness of the education of nurses. They stress that:

The council has to change its lenient view on the institutions. It has to enforce the provincial government for the full implementation of the curriculum. The council has the Act and framed the rules and regulations (R&R), but all in vain as there is no observance of them. The NC has to pressurise institutions to provide required level of education. It is time now to replace the word `Should` with `Must` to have the desired outcome of education

Further elaborated:

Enhancement of the professional value, showing a difference that nurses could make

has become now extremely important than ever

The urgency of an internal and an external quality assurance system was deemed as:

There must be an internal monitoring mechanism to observe the quality of teaching and learning activities in the schools. It would help to keep eyes on those crownless kings who look busy but do nothing. Also an effective external QA system----is integral to control schools that are opened prior to the fulfilment of education requirements

Another notion was:

The inspection process should focus more on the quality of teaching and learning, teaching plans, budget availability------- and the needs in terms of the infrastructure

A suggestion was:

------there must be a criteria for the selection of the inspectors and support those nurses who possess the desired knowledge and the skills to carry out inspections and suggest corrective actions

Another opinion was:

-------invite competent inspectors from the general education sector such as the Higher Education Commission, Curriculum Development Wing or the Intermediate Examination Boards----- to have fair reports based on their neutral judgments

Also it was pointed out that:

The principals should be fully aware of the objectives and processes of the quality assurance. It would reduce the conflicts and promote collaboration that in turn could achieve the desired outcome of inspection

A need to have a checklist based on an inspection form was expressed as:

------a kind of booklet consisting of a list of all the necessities as physical infrastructure, teaching aids, library facilities and FT faculty including the subject specialists, should be available to collect detailed information during an inspection

The inspection process proposed as:

-------inclusive of teaching and learning activities, review of the academic results of the students, overall hospital and school environment, review of available nursing human resources at both the sides and students living condition is vital. Also meeting with students, teachers and the school and the hospital administrators should be the part of the inspection process

Establishment of a quality assurance unit at the NC and sub-offices of the council in the provinces were considered important to enhance collaboration with the nursing directorates and to accelerate the implementation of plan and policies to be set for quality and quality assurance. It was recommended that:

------A separate unit staffed with honest officers who are assigned the responsibilities of quality assurance is central to the arrangements of quality enhancement

The implementation of the a regularly applied QA system will only be possible if the NC has its sub-offices in the provinces and work in collaboration with the Health Secretaries, Nursing Directorates and the Examination Boards

Discussion

This study first time initiated discussion on quality and quality assurance in the basic nurse education and described the current situation as perceived by the nurse leaders. The findings indicate nearly a unanimous desire of the nurse leaders to gauge quality of education through quality assurance system. Quality of education now seems to be very important in a worldwide competitive market. Jamookeaah[19] suggests educational institutions should place quality of education at the top of their agenda in order to survive the pressures of the economy and to compete in seeking resources. A competitive employment market and emerging quality nursing care science brings further pressures on the quality of education to achieve the desired level of health of people which include social, psychological and economic wellbeing and not merely an absence of disease[20]. These changes reflect the need for quality assuring procedures and processes to ensure that graduates attain adequate standards of education and training [21].

The finding reveals a generally recognised problem that inspections were rarely held and secondly sporadic inspections did not cover all aspects such as `*inputs, processes and outcomes*`4. Such sporadic inspections also fail to investigate quality assurance mechanisms, structures or processes within the institution. There is usually no reflection on the effectiveness of curriculum design or the outcomes of the programme. As a result,

the academic arrangements in the institutions often do not meet the requirements for teaching and learning activities[22].

The current lopsided practice itself appeared as attributing to an emerging need for setting a better quality assuring system in the BNE. An appropriate and regularly implemented quality assurance mechanism can reflect issues arising from academic processes / procedures and institution's operation. It gives one a voice for seeking sufficient resources to manage schools and academic activities in a quality context and it serves as a continuous and lifelong professional mandate[23]. The QAA[24] claims that quality assurance practices are not assumed to judge quality alone but provide information, which could be used to play a role within the quality framework.

Loder[25] suggests that the managers and senior members of educational institutions need to be familiar with the quality assurance standards, procedures and processes. The role of the nursing leadership may not necessarily in providing or developing a full quality assurance system but in facilitating the institutions to develop their own relevant system.

The nursing leadership in the country could take in to consideration the following professional, economic and social/political incentives[26] of having a quality assurance system in place:

Professional incentives

Consequence of implementation of an effective quality assurance system is a sound educational programme[27]. Development of such system necessitates full commitment, participation and cooperation[26, 28] of all responsible for providing education. The system increases effectiveness of programs,

cost efficiency and enforces a strong relationship[8] among those who:

- commissioned education

- responsible to ensure adequacy of educational programmes and education provision and

- who are responsible for the delivery of educational standards and quality

Thus enhancing cooperation, coordination and widen the effective communication among them. It would facilitate the resolution of conflicts around quality to reach agreements and would enhance inter-professional relationships.

Having a clear and unambiguous system to assess, monitor and enhance the quality of education would serve as a central element in the educational endeavours to meet the needs of all stakeholders. The quality assurance reports would make others aware of the role and functions of nursing education that could create a positive image of the profession.

A continuous internal monitoring system available at school level would be a valuable mechanism for strengthening quality assurance practice of the NC. A regularly produced review document would contribute to the self-evaluation of schools in a quality context as well as providing the pre-requisite information for quality assurance required by the external reviewers such as the Department of Health (DoH) and the Council. It would increase the schools accountability and responsibility for the quality of service they render and commitment to a reliable and productive work. The system would encourage institutions to describe their philosophy and mission statement which would help to ensure implementation of an overall nursing philosophy stated in the curriculum. The schools could ultimately

contribute towards the development of procedural documentation, standards, criteria and policies for a genuinely supportive quality assurance mechanism.

Appropriately developed standards that accurately measure the level of goal attainment[29] would facilitate the implementation of codes of ethics [30], basic nursing curriculum[17]and the NC rules and regulations[31] in the country.

The quality assurance approach places students' experience as a priority. Quinn[4] suggests that in order to achieve quality, `*totality of the educational experiences of students*` has to be assured. Students' role as the direct consumer of education and as the end product of education is an important consideration in the quality assurance approaches.

Economic incentives

The government stresses an efficient and effective use of available resources. A regularly implemented quality assurance system would facilitate both an efficient and effective utilisation of available resources and an appropriate and sufficient education provision for the preparation of nurses. Such a system would facilitate the top leadership in decision-making regarding the resources allocation to the nursing education institutions based on their educational programmes' and academic requirements.

A well-developed system takes into account all aspects of education such as inputs, processes and outcomes to search for more on quality in education. James and Marr[32] consider quality assurance as a key phrase, particularly in the new market economy within the national health system (NHS) in UK. They suggest that a stringent monitoring

and review systems must be developed for effectiveness, efficiency and economy of educational programmes.

Social and political incentives

The quality assurance system would provide more valid information regarding the educational plans and proposals to the government and therefore can seek political support for their approval and implementation. The reports would provide information on the performance and role of the nurse education programme that meets the society's expectations. Consequently, there would be more acceptances and a positive impact on the professional image as well as the quality of clients' care. Well-established standards of care would promote the legislative obligation of the NC Act to exercise its power over nursing practice all over the country. It can also further strengthen the NC accreditation policy, procedure and process.

Conclusion

The findings provide initial insights into the current situation and discerned a need to have a comprehensive, agreed by all stakeholders and regularly applied quality assurance system in place. The system has to ensure quality of education of nurses who have to provide safe and high quality care to their clients.

Although, each organisation has its own problems which require special consideration in planning the quality assurance system[33], a continuous quality improvement (CQI) framework based on Plan-Do-Check-Act (PDCA) cycle or certain aspects of it can be used to determine `what to establish` and `how to implement` the desired system of

quality assurance. Oakland[34] suggests CQI framework as a never-ending powerful balanced approach implies systems, teams and tools.

Acknowledgement

References

1. Adams D. Defining Educational Quality. Arlington, VA: Institute for International Research; 1993.

2. Higher Education Quality Council. Guidelines on quality assurance. Higher Education Quality Council: London; 1996.

3. Yorke M. Indicators of program quality: A project report prepared for HEQC. Higher Education Quality Council; London; 1996.

4. Quinn FM. The principles and practice of nurses' education. Cheltenham: Stanley Thornes; 2000.

5. Quality Assurance Agency for Higher Education. A brief guide to quality assurance in UK higher education. Available at:

http://www.qaa.ac.uk/public/heguide/guide.htm. Accessed on 6th June 2004.

6. Craft A. International developments in assuring quality in higher education: selected papers from an international conference, Montreal 1993, International Network of Quality Assuring Agencies in Higher Education, Conference. London: Falmer Press; 1994.

7. National League for Nursing Accrediting Commission. Accreditation manual and interpretive guidelines by program type for post secondary, baccalaureate and higher degree program in nursing. Available at: http://www.nlnac.org/manual_criteria.htm. Accessed on 4th November, 2002.

8. Department of Health, UK. (2003) Streamlining quality assurance in health education: Purpose and Education. Department of Health, UK; 2003.

9. Stavropoulous, A, Stroubouk T. Exploring nurse students' expectations for developing a quality assurance course. *HSJ.Gr.* 2009; 3(4):348-353

10. Koch T. A review of nursing quality assurance. *JAN*. July 1992; 17:785-794.

11. Mgbekem, M.A, Samson- AKPAN, Patience. Quality Assurance in Nursing Education: An Absolute Necessity, Towards Quality in African Higher Education. Available at: http://herp.net.org, Accessed on April 25, 2011.

12. The College of Nursing Ontario. Growing quality in nursing: A guide to the quality assurance program, 1997. College of Nursing Ontario, Canada.

13. Brackenreg J. The brave new university world: factors affecting quality assurance of nursing graduates in Australian undergraduate program. Collegian Journal of the Royal College of Nursing Australia, 2004; 11(1): 28-34.

14. Mishra S. Quality Assurance in Higher Education, National and Assessment and Accreditation Council, India. 2006; Available at: http://www.col.org. Accessed on April 24, 2011.

15. Indian Nursing Council. Initiatives: Teaching material for quality Assurance Model. Available at: http://www.indiannursingcouncil.org Accessed on April 15, 2011.

16. National Board of Nurses, Midwives and Health Visitors, UK. Providing Standards: Quality Assurance Handbook, National Board of Nurses, Midwives and Health Visitors, UK; 1999.

17. Pakistan Nursing Council. Basic nursing curriculum. Pakistan Nursing Council Islamabad; 1992.

18. Milakovich ME. Improving service quality: achieving high performance in the public and private sectors. Boca raton; London: St. Lucie Press; 1995.

19. Jamookeeah D. Health care professional's perceptions and judgments of what is quality education and training. M.Ed. Thesis. Huddersfield University; 1992.

20. Bourne PA. Socio-demographic determinants of Health care-seeking behaviour, self-reported illness and Self-evaluated Health status in Jamaica. *International Journal of Collaborative Research on Internal Medicine & Public Health.* 2009; 1(4):101-130.

21. World Health Organization. Quality Assurance and Accreditation of nursing and Midwifery Education Institution. WHO Regional Office for South East Asia; 2007.

22. Amarsi, Y. (1998) Key stakeholders' perceptions of nursing human resource development in Pakistan: a situational analysis, PhD thesis. Canada: McMaster University; 1998.

23. World Health Organization. Building standards-based nursing information systems, Pan American Health Organization; 2000.

24. Quality Assurance Agency for Higher Education. Code of practice for the assurance of academic quality and standards in higher education: program approval, monitoring and review. Quality Assurance Agency for Higher Education; 2000.

25. Loder C. Ed. Quality assurance and accountability in higher education. London: University of London; 1990.

26. Wright CC, Whittington D. Quality assurance: an introduction for health care professionals. Edinburgh: Churchill Livingston; 1992.

27. Barnett D, Kemp N. The A-Z of applied quality for clinical managers in hospitals. London: Chapman and Hall; 1994.

28. Stebbing L. Quality assurance: the route to efficiency and competitiveness. 3rd ed. New York; London: Ellis Horwood; 1993

29. Dunne LM. How many nurses do I need? : A guide to resources management issues. London: Wolfe Publishing; 1991

30. Pakistan Nursing Council. Rules and Regulations for Nursing Educational Institutions. Islamabad: Pakistan Nursing Council; 1992

31. James J, Marr J. Development and validation of an open learning second to first level nurse education course. Sheffield: English National Board for Nursing, Midwifery and Health Visiting, UK; 1992.

32. Storey A, Briggs R, Jones H, Russell R. Quality assurance in Monitoring Bathing Waters: A practical guide to the design and implementation of assessments and monitoring program. World Health Organization. Available at:

http://www.who.int/docstore/water_sanitation_health/bathwater. Accessed on November 2010.

33. Oakland JS. Total quality management. Oxford: Butterworth- Heinemann and Elsevier; 2003.