Evidence Based National Framework for Undergraduate Nursing Education in Sri Lanka

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Abstract—

Introduction

In Sri Lanka, nursing education is moving from diploma nursing certificate to a university bachelor degree. In this transitional stage, the development of an evidence based national level framework for undergraduate nursing education is a crucially important step to improve nursing education and nursing service in Sri Lanka. The overall purpose of this PhD research study was to develop an evidence-based national framework for undergraduate nursing education in Sri Lanka.

Method

My PhD research study has involved conducting critical reviews of literature, two systematic reviews, developing a draft conceptual framework, testing its appropriateness and feasibility with key stakeholders via focus group discussions in Sri Lanka, and formulating the final national framework for nursing education in Sri Lanka.

Results

The systematic reviews revealed that the evidence regarding the effectiveness and appropriateness of undergraduate nursing curricula is notably weak and direct transfer of the curriculum model from one country to another is not appropriate without first assessing the cultural context of both countries. The conceptual framework, which was developed using the finding of systematic reviews and literature reviews, consists of widely recognized nursing concepts in international and local contexts. However, some concepts cannot be directly applicable because of cultural and economic impediments.

Discussion

This study identified several factors that shape the approach to nursing education in Sri Lanka. These factors include: Western influence; Sri Lanka's cultural influence; the current healthcare system and demand for healthcare; nursing systems and regulation; medical dominance; financial support; and Sri Lanka's education system. All of these factors influence the conceptualization of nursing and educational strategies needed to effectively and appropriately prepare nurses in Sri Lanka. This study proposes seven recommendations to support the implementation of the study findings into practice in Sri Lanka.

Index Terms— Nursing, Education, Conceptual framework, Curriculum development, Systematic reviews, focus groups, Evidence based practice, Sri Lanka

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I. INTRODUCTION

Many countries around the world have realized the importance of higher education for nurses, and most countries are moving in this direction. The World Health Organization Global Advisory Group in 1992 recommended that, when appropriate, countries should move basic nursing education to university standards [1]. This view was supported by many countries around the world, moving from hospital-based apprenticeship training to university-based education, enabling the acquisition of bachelor degree education as a minimum preparation for beginning professional nursing practice [2]-[7]. It is evident that bachelor of nursing (baccalaureate-nursing) graduates acquire unique skills as clinicians and demonstrate an important role in the delivery of safe patient care [6], [8]-[10].

In Sri Lanka, pre-registration nursing education is currently based on a three-year certificate level nursing program in schools of nursing that are attached to the Ministry of Health and three-year bachelor programs in nursing at universities. The government policy is that nursing education should be based on the four-year undergraduate nursing program [11-13]. In response, the University Grant Commission of Sri Lanka has approved four-year Bachelor of Science in Nursing programs (BScN) in three universities [13]. In addition to the proposed affiliation of existing schools of nursing to the university sector, several other universities including the Open University proposed to establish similar programs in the future [14],[15]. However, there is no evidence to support the contention that existing and proposed undergraduate nursing curricula in universities are based on a common philosophy or an acceptable needs assessment.

Although Sri Lanka has achieved a relatively high health status given its low level of spending on healthcare services, a large segment of the population still experiences vital health problems at all stages of life, mainly due to lifestyle and the demographic changes accompanying the epidemiological transition [16], [17]. Thus, it is essential that nursing education reflect the existing and future needs of healthcare in Sri Lanka, while focusing on rapidly changing technology and healthcare interventions. However, there is no research that has focused on nursing education in Sri Lanka. Some reported studies have been conducted in small-scale evaluative formats within a single school of nursing and focused only on a limited number of program outcomes [18]. In this context of nursing education, I have selected my PhD study to develop a

national level conceptual framework for undergraduate nursing education in Sri Lanka.

II. METHOD

The process of developing a conceptual framework used an evidence-based approach derived from the Joanna Brig DOI: 10.5176/2345-718X_1.1.15 s Institute's (JBI) model of evidence-based healthcare [7]. The process of developing the national conceptual framework involved several steps:

1. Analyzing nursing and educational theories and concepts to understand the nature of conceptual frameworks within nursing curricula;

2. Conducting comprehensive systematic reviews to establish: (i) the effectiveness and appropriateness of undergraduate nursing curricula, and (ii) the feasibility and appropriateness of introducing the nursing curricula from developed countries into developing countries.

3. Analyzing current trends and issues in global, regional and Sri Lankan healthcare, and nursing education to capture the concepts that should be addressed in the conceptual framework;

4. Developing a draft conceptual framework using the above findings;

5. Evaluating the feasibility and appropriateness of the draft conceptual framework in Sri Lanka, getting feedback and opinions from the key stakeholders of nursing profession using focus groups;

6. Developing an evidence-based conceptual framework that is feasible and meaningful in Sri Lankan context.

The JBI method of systematic reviews was used to synthesize the evidence on effectiveness, appropriateness and feasibility of current curricula models/ conceptual frameworks, and its potential applicability in Sri Lanka. The systematic review is the core of the evidence-based practice process [19], and it is a form of research [20]-[22]. Systematic reviews are considered as the highest level of evidence (Level I) [23], and are used to inform policy and decision-making in organizing and delivering health and social care [22]. Focus groups were used to seek feedback on the draft conceptual framework from key stakeholders in Sri Lanka. Focus groups are the most appropriate method to generate meaningful opinions, suggestions and feedback [24]-[26]. In fact, focus groups have clear potential where the researcher is interested in processes whereby a group jointly constructs meaning about a topic.

III. LITERATURE REVIEW

As first step of this research study, a literature review was conducted to examine the various types of nursing curricula, with a special focus on the role of conceptual frameworks in shaping curricula. Despite the wide applicability of conceptual frameworks in nursing curricula, there has only been limited exploration and discussion of conceptual frameworks in nursing curricula. The literature search identified only seven studies of conceptual frameworks, four of which were conducted in USA. The results of the review revealed that worldwide, nursing programs have shifted their curriculum model from the traditional medical model (the basis for the practice of medicine) to the nursing model that is based on nursing theories. It is also apparent that the usage of nursing theorists' models as a basis of conceptual framework has declined from 41% to 33% in the USA [27], [28]. The nursing process is the most commonly used framework for baccalaureate education in USA [28], [29] while the client system framework (individual, family, community) is being used widely in Canada [30]. In Australia, the holistic approach to patient care is the most prominent framework for Bachelor of Nursing curricula [31]. The review also found that most nursing curriculum frameworks are based on the meta-paradigm of nursing – person, health, environment and nursing, and may contain additional concepts and threads [28], [32], [33].

Nursing curriculum models/frameworks have been used by thousands of baccalaureate nursing educators to develop, define, and revise nursing curricula. However, there are limited studies that investigate the effectiveness of these models. As part of this research study, a systematic review was conducted to appraise and synthesize the best available evidence on the effectiveness and appropriateness of undergraduate nursing curriculum models [34]. A total of 16 papers, experimental and textual in nature, were included in the review. The majority of papers was descriptive and examined the relationships between nursing curricula and specific learning outcomes such as critical thinking skills. In this review, four undergraduate nursing curriculum models were identified: integrated curriculum, subject-centered curriculum, problem based learning, and an integrated critical thinking model. However, the evidence regarding the effectiveness and appropriateness of undergraduate nursing curricula is notably weak due to the paucity of high quality comparative studies and meaningful outcome measures of available studies [34].

Historically, most developing countries borrowed and adapted other countries' curricula (mostly from developed countries) for restructuring nursing curricula in their countries, mainly through internationally funded or collaborative education projects. The second systematic review was conducted as part of this study to find the best available evidence on the feasibility and appropriateness of introducing developed countries' nursing curricula into developing countries [35]. A total of four papers, including one descriptive study and three textual papers were included in the review. The evidence regarding the feasibility and appropriateness of introducing developed countries' nursing curricula into developing countries is weak due to the paucity of high quality studies. However, some lower level evidence suggesting that direct transfer of the curriculum model from one country to another is not appropriate without first assessing the cultural context of both countries [35]. Secondly, the approach of considering international, regional and local experiences of developing nursing curricula models

is more feasible and presumably a more effective strategy for adapting a country's curriculum into a culturally or economically different country [35].

Internationally, the major trend in nursing education is the move from hospital-based apprenticeship training to university-based education, enabling the acquisition of bachelor degree education as a minimum preparation for beginning professional nursing practice. In 1992, the World Health Organization Global Advisory Group recommended that, when appropriate, countries should move basic nursing education to university standards [1]. The view that nursing education should be based in the university sector was supported in most developed countries (e.g. Australia, New Zealand, and Canada). In South-East Asia region, most countries have established university education for nurses; however the progress is very slow due to unique social, economic and political situations experienced by these states [36], [37]. Nursing education systems are incorporating evidence-based strategies as results of healthcare reforms in their countries. Several countries have passed policies relating to evidence-based healthcare, and suggested that health professional education and curricula should be based on this approach [38]. During the past decade, many schools of nursing and nursing research institutions have incorporated evidence-based practice or evidence based nursing into their mission and philosophical statements to reflect their focus on this movement [39].

IV. FINDINGS

The draft conceptual framework of this study was based on a mixture of international, regional and Sri Lankan research evidence and concepts that derived from above literature reviews and systematic reviews. It was crucially important to evaluate the feasibility and appropriateness of the draft conceptual framework within the Sri Lankan cultural and economic context by seeking the input and feedback of key stakeholders in Sri Lanka. Another aim of the focus groups was to explore new concepts concerning the draft conceptual framework. Before the research commenced, ethical approval was obtained from the Research Ethics Committee of Royal Adelaide Hospital, Adelaide, South Australia, Sri Lanka Medical Association, Colombo, Sri Lanka and National Health Research Council in Sri Lanka.

In this study, six focus group discussions were conducted in multiple sites in Sri Lanka. A total number of 36 participants (nursing academics, administrators, clinicians) were included in six focus groups. A majority of participants were graduates (n=24; 66.6%) and nine of them (25%) held a postgraduate degree in nursing. All participants had extensive experience of nursing service (more than 10 years) and 80.5% (n=29) of participants had 10-30 years of experience. Some participants hold official positions in nursing professional organizations and nursing trade unions. The focus group discussions were guided by the draft conceptual framework that consisted of pre-defined concepts. These major concepts were professional nursing, skills, knowledge, values and beliefs, and teaching and learning. In data analysis, several sub-themes emerged in

addition to the pre-defined sub-concepts. The final conceptual framework for undergraduate nursing curricula in Sri Lanka was shaped by the findings of the focus group discussion and the related literature (Fig.1).

Based on focus group finings, it was concluded that the draft conceptual framework incorporated the most important concepts and features of nursing in Sri Lanka, however, several concepts were not directly applicable due to Sri Lanka's political, social, cultural and economic circumstances. Thus, these concepts need to be further refined so that they reflect the realities of Sri Lanka's social, cultural and economic contexts
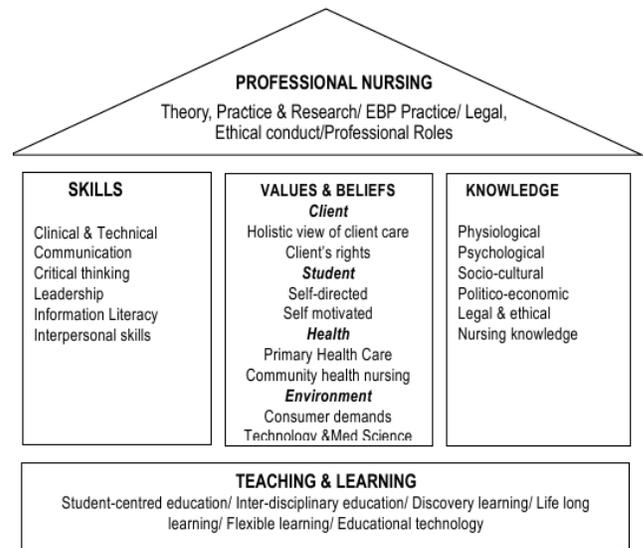

Fig.1: An evidence-based conceptual framework for undergraduate nursing education in Sri Lanka

V. DISCUSSION

The present study identified several factors that shape the approach to national level nursing education framework in Sri Lanka. These factors include: Western influence; Sri Lanka's cultural influence; the current healthcare system and demand for healthcare; nursing systems and regulation; medical dominance; financial support; and Sri Lanka's education system (Fig.2). All of these factors appear to have some influence on the implementation of nursing and educational strategies needed to effectively and appropriately prepare nurses in Sri Lanka.

In this study, the conceptual framework is principally based on international concepts that are mostly conceived in the Western world. In the light of the existing situation in Sri Lanka where society is continually affected by Western ideologies, evaluation of the conceptual framework is problematic in terms of cultural and economic relevancy. Most Sri Lankan stakeholders accepted the conceptual framework that emerged in the study and the concepts it presented as relevant to Sri Lankan nursing profession and nursing education; however, some concepts were not able to be applied in contemporary practice because of inadequate resources. Indeed, there is little likelihood that some concepts

(e.g. holistic care, discovery learning, educational technology etc.) could be applied in the near future. In this context, it is problematic to utilize these concepts in developing countries. Thus, it is crucially important to determine the best way of putting this conceptual framework into practice in Sri Lanka.

The cultural values, beliefs and practices of Sri Lanka undoubtedly play a major role in the cultural practices of Sri Lankan nurses and of nursing education. However, the conceptual framework that emerged from this study is almost entirely reflective of Western cultural norms. In considering the need for curricula to be sensitive to Sri Lankan culture, it is apparent that the agreed framework includes no reference to the central tenets of Buddhist or Hindu beliefs or to the dominant ideologies associated with traditional Sri Lankan societies that preceded the Western colonization of the country. Additionally if Buddhist views of healthcare and nursing can be integrated into Sri Lankan nursing, there is no need to provide Western codes of ethics to resolve moral issues of nursing. However, it is a challenge to introduce Eastern religious values into nursing in Sri Lanka as it has already been heavily influenced by Western thought.

The Sri Lankan healthcare system is based on a free-of-charge public service that has contributed to the improved health status of the population. However, the effectiveness of healthcare is problematic compared to healthcare expenditure because even the poorest in the society prefer to use private healthcare providers. The quality of care and facilities in government hospitals may be improved if the public are willing to pay for healthcare or through a public healthcare insurance system. But this decision would be a huge shock for the public and political system. It would be unlikely that such a system would be introduced to Sri Lanka in the near future due to political and social uncertainty. Thus healthcare facilities, systems of healthcare delivery and training of healthcare workers will likely remain unchanged for the future.

Sri Lanka nursing service, education, administration and regulation is strongly influenced by Western ideas and the medical profession. Given the organizational structure of healthcare in Sri Lanka, it is unlikely that nursing will ever achieve autonomy in the idealized professional sense. There are several reasons for this, but most significantly, nurses work in complex hierarchies where they are subordinate to organizational structures, social recognition, and culturally-endorsed authority of medicine. In a developing country like Sri Lanka, the lack of professional autonomy is not a huge problem but nurses need to acquire clinical decision-making skills in order to provide better nursing care in a context where resources are limited.

Traditional physicians (*Vedamahattaya*) are highly respected by Sri Lankans. Similarly, western medical doctors' work is respected, but their influence and dominance in healthcare is greater than that of traditional physicians or other healthcare professionals. Professional autonomy, better wages, higher education and political power through trade unions make it difficult for other healthcare workers or even the government to challenge Sri Lankan medical doctors.

Medical professionals' influence over nursing and allied health professions was apparent when the government decided to implement healthcare professionals' education at universities. Although, there were no apparent concerns raised by medical doctors against the government decision, concerted protest campaigns were launched by certain elements (e.g. medical students) and these have had a significant and continuing influence over university nursing education. The medical students demanded that allied health students should neither be admitted to the Faculties of Medicine nor be allowed to train in the teaching hospitals where the medical students undertake training. Furthermore, they insisted that the duration of the undergraduate courses of the allied health students should be reduced to three years (from four year). It can be assumed that university education for nurses and allied healthcare workers interferes with doctors' existing dominance of the professional hierarchy of healthcare and other aspects relating to their work and wages. Interestingly, the quality of patient care – influenced by the skills and knowledge of nurses and allied healthcare workers – seems to be of secondary importance. In this context, interdisciplinary education among healthcare professionals is problematic and healthcare team work is disregarded.

The feasibility of any project or plan largely depends on financial support. A lack of proper financial management of the state sector seems to be a major problem in appropriate resource allocation. In addition, resourcing allocated for nursing education is largely determined by medical administrators; fiscal management is not a role of Sri Lankan nurse administrators. Furthermore, current disputes over healthcare professionals' education have direct impacts on the resources and financial support available for nursing education and research. In this context, it is a huge challenge to implement financially dependent concepts into nursing education. However nurses must be prepared to use available resources effectively and to develop sustainable strategies for nursing care.

Like healthcare, education from the primary to tertiary level is free of charge for all students in Sri Lanka. The aspiration for education is high among Sri Lankan parents because it is widely accepted that good education for children is of prime importance and that education is the only way to improve social mobility. In fact, Sri Lankan primary and secondary students are educated competitively and avoid even playing with peers. A strong focus on academic education leads to poorer acquisition of basic social skills that impact on social values of sharing, respect or considering others, particularly because the competition for entrance into popular university courses such as medicine and engineering is so intense and places are only offered to the highest ranked students. This has automatically introduced a 'superiority complex' amongst selected students. Furthermore, Sri Lankan students are passive and not encouraged to ask questions of teachers, as teacher-centered education and respect for teachers are highly valued in society. Thus, the opportunity to develop creativity and critical thinking may be limited.
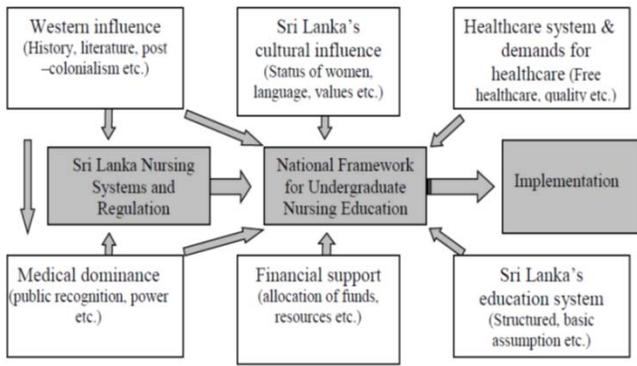
Fig. 2: Factors that shape the national framework for undergraduate nursing education in Sri Lanka

VI. CONCLUSION

It is clear that the conceptual framework is based on international theoretical concepts that were mostly conceived and implemented in Western countries. These concepts were evaluated in order to develop a feasible and appropriate conceptual framework that is culturally and economically relevant to Sri Lanka. However, it is apparent that the views of key stakeholders of nursing education in Sri Lanka did not indicate a need to radically alter the conceptual framework. First, it must be considered that most developing countries have little or no choice in terms of promoting their own strategies. By and large, in the past such situations have involved the transplantation of developed countries' ideas through internationally funded projects to overcome a perception of a lack of local resources and expertise. However, it is necessary to understand that developed and/or Western countries' ideas are the product of their own usage and relevant for their socio-cultural and economic conditions. Exposure to Western views is not sufficient to transplant their strategies in socially, culturally and economically different developing countries. This complicates the issue of preparing and implementing appropriate strategies in developing countries.

It is clearly important that local stakeholders are involved at all stages of the implementation and engaged to ensure that cultural and societal issues are considered as part of the implementation strategy. This can be achieved by establishing a task force that comprises key stakeholders of nursing, experts in healthcare and social sciences, and a representative of the public.

VII. RECOMMENDATIONS

Nursing education in Sri Lanka needs to reflect the contemporary needs of the nursing profession and current and future demands of healthcare. The following seven recommendations were developed from the findings of this study. They are designed to inform the planning process of nursing education, patient care services, management and research for the country.

01. Recommendation: Consistency in scope of practice

It is evident that there is a distinct lack of a national level framework or competency standards for nursing education and culturally acceptable ethical guidelines in Sri Lanka. A consistent national framework for undergraduate nursing education should be developed and implemented across all undergraduate nursing programs. This can be achieved by:

- Incorporation of the conceptual framework developed in this study as the basis of developing a national framework for undergraduate nursing education.
- Promoting a united, collaborative approach in developing a national nursing education framework that recognises the wider contribution of clinical, education, and administration sectors integrated with healthcare experts' and public opinions.
- Development of national nursing competency standards on the basis of a national framework of nursing education regulating the nursing profession through a proposed Sri Lanka Nursing Council.
- Development of a culturally and socially acceptable Code of Ethics and a Code of Conduct using international and local guidelines and evidence.

02. Recommendation: Pre-registration nursing education

A policy decision should be made concerning the bachelor degree as a minimum preparation for beginning professional nursing practice. This can be achieved by:

- Expansion of existing 4-year Bachelor of Nursing programs that can absorb the expected number of nurses in the government and private healthcare sectors.
- Affiliation of existing nursing schools with the universities where appropriate integration of present nursing tutors into the university sector on the basis of their qualifications and experience.
- Expansion of existing Post RN Bachelor program at the Open University and establishing a pathway to degree programs (e.g. 2-year accelerated program) that enables current registered nurses to upgrade their qualifications.

03. Recommendation: Teaching and learning

It is essential that teaching and learning should be improved by enhancing nurse educators' knowledge and skills and incorporating modern teaching and learning strategies with modern technology. This can be achieved by:

- Increasing the quantity and quality of nurse educators by providing postgraduate education opportunities through local and international universities.
- Establishment of a postgraduate institute for nursing to increase the quality of the nursing workforce for the education, nursing practice, research and administration sectors.
- Increasing the use of modern teaching and learning

strategies (e.g. student-centred learning, self-directed discovery learning) with educational technology and information technology.

- Promoting inter-disciplinary education among healthcare professionals, which promotes team development in healthcare institutions.
- Establishing a life-long learning culture that can be made possible through continuing education and introducing a renewal licensure system.
- Offering flexible educational delivery models that enable nurses from diverse geographical locations (rural and remote) to enhance their qualifications while keeping them in their clinical practice.

04. Recommendation: Curricula content

It is important that nursing curricula should reflect the current needs of healthcare and the community and are culturally appropriate and economically feasible. This can be achieved by:

- Development of a culturally acceptable and economically feasible nursing care model that delivers holistic care for patients and primary healthcare for the community.
- Establishing national competency standards and a code of ethics in nursing curricula to ensure graduates are competent to practice safely and ethically in their professional nursing roles (e.g. as caregivers, advocators, educators, researchers).
- Integration of professional nursing skills (clinical, technical, critical thinking, leadership, information literacy and interpersonal skills) to enhance the nurses' decision-making abilities clinically, academically and socially.
- Increasing the broad balance of knowledge from medical sciences, social sciences and humanities in nursing curricula to improve nurses' understanding of patient, community, society and the world.
- Incorporating research education and training into nursing curricula to enable nurses to implement evidence-based practice for patient care.
- Increasing the curricula content of community healthcare and primary healthcare to provide the basis of developing community health nursing.

05. Recommendation: Evidence-based practice

There is considerable delay in acquiring evidence-based practice in Sri Lanka due to a lack of basic education and impediments in the evidence-based practice process. This situation can be changed by:

- Introducing courses of evidence-based practice in basic, post-basic and university nursing programs to enable nurses' basic understanding of evidence-based practice process.
- Establishing a nursing research and ethics committee that replaces the current long and complex process of getting ethical approval through medical ethics committees.

- Increasing the dissemination of research findings in Sri Lanka through the establishment of local nursing journals, conferences and education programs.
- Establishing a nursing advisory committee at the Ministry of Health so that it integrates best practice evidence into education and clinical practice.
- Establishing a close link between the education and clinical sectors to enable conduct of joint research and evidence utilisation.

06. Recommendation: Resources allocation and funding

It is vital that students and nurses in different sectors (educators, clinicians, administrators and researchers) have better working conditions and encouragement for further education, training and research. This can be achieved by:

- Allocating adequate resources and funds for developing basic and essential facilities for patients and for nurses and healthcare workers.
- Increasing facilities (e.g. class rooms, libraries, teaching and learning materials, computers, internet etc.) in nursing education institutions.
- Allocating resources and funds for nursing research to enhance nursing research, education and patient care.
- Offering postgraduate scholarships for nurse educators, researchers and clinicians through local and international funding agencies (e.g. WHO) so that nurses' undertaking of further education and professional development is made possible.
- Offering incentives for nursing students (e.g. monthly pay for clinical work for all students whether in nursing schools or university) and for post RN students (e.g. subsidised fees, study leave) to ensure continual recruitment for nursing and career development.

07. Recommendation: Image of nursing

It is paramount important that nurses should develop a better public image of nursing through professional work and development, professional relationships, culturally relevant practice and political lobbying. This can be achieved by:

- Increasing professional nursing care and being aware of patients and their relatives' needs, and taking into account the limited resources available in healthcare.
- Establishing a better professional relationship with healthcare consumers and other healthcare professionals and workers.
- Integration of cultural values systems, especially Buddhist views of healthcare, into nursing to ensure nursing practice is culturally relevant and to improve the public image of nursing.
- Strengthening professional relationships with medical professionals through joint education and research in the workplace.
- Strengthening professional nursing associations and trade unions to increase political lobbying and the

image of nursing.

REFERENCES

[1] D. M. Modly, R. Zanotti, P. Poletti et al., Advancing nursing education worldwide, New York: Springer, 1995.

[2] Royal College of Nursing, Shaping the future for nursing education, Royal College of Nursing, London, 1997.

[3] CNA. "Becoming a Registered Nurse," 01.06.2007, 2007; http://www.cna-nurses.ca/CNA/nursing/becoming/default_e.aspx.

[4] A. Zabalegui, L. Macia, J. Marquez et al., "Changes in nursing education in the European Union," J Nurs Scholarsh., vol. 38, pp. 114-118, 2006.

[5] R.S. Jayasekara, "Issues, challenges and vision for the future of the nursing profession in Sri Lanka: a review," Int Nurs Rev, vol. 56, pp. 21-27, Mar, 2009.

[6] AACN, The impact of education on nursing practice: fact sheet, American Association of Colleges of Nursing, Washington, DC, 2012.

[7] A. Pearson, R. Wiechula, and C. Lockwood, "The JBI model of evidence-based healthcare," Int J Evid Based Healthc., vol. 3, pp. 207-215, 2005.

[8] L. H. Aiken, S. P. Clarke, R. B. Cheung et al., "Educational levels of hospital nurses and surgical patient mortality," JAMA., vol. 290, pp. 1617-1623, Sep 24, 2003.

[9] S. McKinley, L. Aitken, G. Doig et al., Final report to the National Review of Nursing Education: a systematic review of the literature on models of nursing education and training, Royal North Shore Hospital, Sydney, 2001.

[10] C. J. Goode, S. Pinkerton, M. P. McCausland et al., "Documenting chief nursing officers' preference for BSN-prepared nurses," J Nurs Adm., vol. 31, no. 2, pp. 55-59, Feb, 2001.

[11] Ministry of Health, National heath policy, Ministry of Health, Colombo, 1992.

[12] Ministry of Health Nutrition and Welfare, The national strategic plan for nursing and midwifery service development (NSP) in Sri Lanka 2001-2010, Ministry of Health Nutrition and Welfare, Colombo, 2002.

[13] University Grant Commission. "University admission 2006/7," 3.6.2007, 2007; http://www.ugc.ac.lk/admissions/Foriegn/Admission%20policy%20part2.html#03.

[14] C. de Silva, Memorandum on university education for nurses by a group of senior nursing officers, Graduate Nurses Foundation, Colombo, 2004.

[15] S. D. Dharmaratne, M. M. Goonasekara, and S. A. Fernando, Subject review report; Department of Health Science, The Open University of Sri Lanka, Nugegoda, 2006.

[16] R. S. Jayasekara, "Community nurses: an urgent need," Nurs Health Sci, vol. 3, pp. 101-104, Jun, 2001.

[17] R. S. Jayasekara, and T. Schultz, "Health status, trends and issues in Sri Lanka," Nurs Health Sci, vol. 9, pp. 228-233, 2007.

[18] Ministry of Health Nutrition & Welfare, The national strategic plan for nursing and midwifery service development (NSP) in Sri Lanka 2001-2010, Ministry of Health Nutrition and Welfare, Colombo, 2002.

[19] A. Pearson, "Balancing the evidence: incorporating the synthesis of qualitative data into systematic reviews," JBI Reports, vol. 2, no. 2, pp. 45-64, 2004.

[20] A. Pearson, and J. Field, "The systematic review process," Evidence for nursing practice, M. Courtney, ed., pp. 73-88, Sydney: Elsevier, 2005.

[21] A. White, and K. Schmidt, "Systematic literature reviews," Complementary Thera Med, vol. 13, pp. 54-60, 2005.

[22] NHS, Undertaking systematic reviews of research on effectiveness, CRD's guidence for those carrying out or comissioning reviews, CRD Report Number 4, NHS Center for Review and Dissemination, University of York, York, 2001.

[23] NHMRC, A gude to the development, implementation and evaluation of clinical practice gudelines, Australian Government Publishing Service, Canberra, 1999.

[24] I. McLafferty, "Focus group interviews as a data collecting strategy," J Adv Nurs, vol. 48, pp. 187-194, Oct, 2004.

[25] R. A. Krueger, and M. A. Casey, Focus groups: a practical guide for applied research, 3rd ed., Thousand Oaks, CA: Saga, 2000.

[26] R. S. Jayasekara, "Focus groups in nursing research: Methodological perspectives," Nurs Outlook, vol.60, pp.411-416,Nov-Dec 2012.

[27] K. V. Hall, "Current trends in the use of conceptual frameworks in nursing education," J Nurs Educ, vol. 18, pp. 26-29, Apr, 1979.

[28] M. McEwen, and S. C. Brown, "Conceptual frameworks in undergraduate nursing curricula: report of a national survey," J Nurs Educ, vol. 41, pp. 5-14, Jan, 2002.

[29] J. Quiring, and G. Gray, "Organizing approaches used in curriculum design," J Nurs Educ, vol. 21, pp. 38-44, Feb, 1982.

[30] K. S. Sohn, "Conceptual frameworks and patterns of nursing curriculum," J Adv Nurs., vol. 16, pp. 858-866, Jul, 1991.

[31] L. Leibbrandt, D. Brown, and J. White, "National comparative curriculum evaluation of baccalaureate nursing degrees: a framework for the practice based professions," Nurse Educ Today, vol. 25, pp. 418-429, Aug, 2005.

[32] D. L. Boland, "Developing curriculum frameworks, outcomes and competencies," Teaching in Nursing, D. M. Billings and J. A. Halstead, eds., Philadelphia: W.B. Sunders, 1998.

[33] J. Fawcett, Analysis and evaluation of conceptual models of nursing,, 3rd ed., Philadelphia: F.A. Davis Co, 1995.

[34] R. S. Jayasekara, T. Schultz, and H. McCutcheon, "A comprehensive systematic review of evidence on the effectiveness and appropriateness of undergraduate nursing curricula," Int J Evid Based Healthc., vol. 4, pp. 191-207, 2006.

[35] R. S. Jayasekara, and T. Schultz, "The feasibility and appropriateness of introducing the nursing curricula from developed countries into developing countries: a comprehensive systematic review," Int J Evid Based Healthc, vol. 4, pp. 208-220, 2006.

[36] WHO-ROSEA, Advisory group on management of nursing and midwifery workforce: report of the first meeting, World Health Organisation- Regional Office for South-East Asia, New Delhi, 2001.

[37] WHO-ROSEA, Conceptual framework for management of the nursing and midwifery workforce, World Health Organization, Regional Office for South-East Asia, New Delhi, 2002.

[38] D. Ciliska, "Educating for evidence-based practice," J Prof Nurs., vol. 21, pp. 345-350, Nov-Dec, 2005.

[39] G. L. Ingersoll, "Evidence-based nursing: what it is and what it isn't," Nurs Outlook, vol. 48, no. 4, pp. 151-152, Jul-Aug, 2000..

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