Critical care nursing in Nepal: brief history and recent advances

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SUMMARY

- Nepal is one of the poorest countries in the world, with crippled infrastructure due to the devastation of the 2015 Earthquake. Despite these set backs, critical care services exist and are growing in strength.
- Critical care nursing leaders in Nepal have recently formed the Critical Care Nurses Association of Nepal (CCNAN).
- This paper summarizes the development and ambitions of the CCNAN and recommends active support and participation from other more established critical care organizations of the world to help us realize our dreams.

INTRODUCTION

The Federal Democratic Republic of Nepal is a landlocked sovereign state located in South Asia (see Figure 1). It has a similar population density to the United Kingdom but suffers considerably poorer wealth status and therefore weaker social and health outcomes with both maternal and infant mortality being significantly worse than those of the UK and other developed economies (see Table 1). In previous times, the country has been rocked by man-made (civil war) and natural (earthquake) disasters that have significantly contributed to the current poor state of the economic, social and health status of the country. Despite such adversities the people remain resilient and the nursing profession, and critical care nursing in particular, are striving to overcome the challenges and forge new and exciting developments internally, regionally and globally.

Figure 1. Map of Nepal

Characteristics	Nepal	United Kingdom
Land area (km^2)	147 181	243 610
Population	29 384 297	64 769 452
Birth rate	19.5 births/1000 population	12.1 births/1,000 population
Death rate	5.6 deaths/1000 population	9.4 deaths/1,000 population
Infant mortality	27.9 deaths/1000 live births	4.3 deaths/1,000 live births
Maternal mortality	258 deaths/100 000 live births	9 deaths/100,000 live births
Life expectancy	71 years	81 years
Health expenditure (% GDP)	5.8%	9.1%
Obesity (adult)	4.2%	27.8%
Literacy male/female (%)	76/53	NA
Children < 5, underweight	30.1%	NA
GDP per capita (USD)	$2700	$43600
Total fertility rate	2.12 children born/ woman	1.88 children born/ woman
Internet users (% population)	19.7%	94.8%

Table 1. Comparison of characteristics: Nepal versus United Kingdom

NURSING IN NEPAL

Nursing existed in Nepal from the very beginning. At first, the mother or other women at home provided nursing care to the sick, injured and old. Nursing has passed many phases but the inner spirit of nursing is the same: care of people. When nursing was first introduced, various difficulties were encountered. Few girls were educated and nurse training was socially unacceptable. There were many difficulties to overcome in the beginning. Only 15% of student populations in the country were girls, and the attitude of the society was a barrier. Most parents from high classes were opposed to the idea of sending their children to study nursing. Before 1956, nursing service consisted of a few midwives trained in India and some locally trained compounders. The first hospital in Nepal, Bir Hospital, was established in 1890. However, the nursing service was practically non-existent. Medicines and dressings were done by doctors or compounders. In the early 20th century, Nepali people became more aware of healthcare needs, especially the Rana family. So they

started to send Nepali women for nursing training to India. In 1950 four women were sent to Allahabad, India for 18 months' midwifery training. After completion of their training, all of them were placed at Bir Hospital. Two more women were sent for staff nurse training in India in 1952. The duration of the course was 3 years followed by a one-year internship. After finishing the training the women came back to Nepal and started working in the HMG School of Nursing, which is the Nursing Campus, Maharajgunj,

Later on, with the effort and influence of Late King Mahendra and Juanita Fleming, RN, a nurse missionary, the Nursing School of Nepal was opened at Surendra Bhawan, Sanepa, Lalitpur, in 1956 with the help of the World Health Organization (WHO). At first, the school was managed and run by WHO nurses. There were fifteen students in the first intake of the nursing school, out of which, eleven students successfully graduated. After three years of nursing education, the school was moved from Surendra Bhawan to Chhetrapati and a few years later, the school was moved to Bir Hospital compound, at Mahabauddha. There it stayed for a few years by the name: "His Majesty's Government (HMG) School of Nursing, Mahabauddha". In 1972, it was named Mahabauddha Nursing Campus, after Tribhuvan University took over all the health-related education programs in Nepal. Finally the campus moved to Maharajgunj on 14 March 1986 in its own building and was renamed Maharajgunj Nursing Campus. Before 1960, most students were accepted in the nursing program just under matriculation. (i.e. School leaving Certificate incomplete). To maintain the standard of nursing education, the entrance requirement of the program changed in 1969. The new requirement for admission into the program was now SLC pass. At that time, the training program was run by HMG and the duration of the nursing course was 3.5 years. In 1959, another school of nursing under the "United Mission to Nepal" was established in Nirbhawan, separate from HMG School of Nursing, Mahabauddha. Both schools were accredited by the Nepal Nursing Council, which administered the final examination and registration to the graduates.

In 1973, HRH Princess Prekshya Rajya Laxmi Devi Shah joined the nursing training. This brought a great change in the social outlook towards nursing. Now nursing is accepted by society and many young girls enrolled into nursing schools. Since 1981, admission requirement has been SLC pass with second division scoring merit in Science, Mathematics and English. At present, there are seven nursing campuses in the country: Maharajgunj, Lalitpur, Bir Hospital, Pokhara, Biratnagar, Birgunj and Nepalgunj under the Institute of Medicine (IOM). One more nursing campus was added in 1989, Bir Hospital Nursing Campus, which is opened by HMG and affiliated to Tribhuvan University. Great changes occurred in 1986, all certificate nursing programs enrolled 10% male students in their programs. But after four batches of intake this policy was stopped. However, Nepal Nursing Council has recently established provision for enrolment of up to 15% of male students in admissionfor nursing school in the current year,

A Bachelor Program of Nursing began at Maharajgunj Nursing Campus in 1977 with more emphasis on midwifery. Later, the emphasis was changed to adult nursing in 1983, child health nursing in 1985 and community health nursing, in 1987. In 1988, all Bachelor of Nursing curricula were reorganized and a two-track program was initiated with specialization in community nursing and hospital nursing. A masters program in Nursing has been Maharajgunj Nursing Campus since 1995.

CRITICAL CARE IN NEPAL

The first ICU was started in 1973 at Bir Hospital, as a five bed medical ICU. This ICU was established after King Mahendra Bir Bikram Shahdev developed heart problems and was taken to India for treatment. Upon his return, he ordered the creation of an ICU, which is still functioning in Bir Hospital as "The Old ICU". This was the only ICU in the country for almost 20 years. Another ICU became functional after the development of Tribhuvan University Teaching Hospital (TUTH) at the IOM, Maharajgunj in 1990 and was a six-bed mixed medical surgical ICU. Immediately following this, TUTH added a five-bed coronary ICU and 10 additional high dependency beds (Acharya, SP, 2014). The term 'ICU' in Nepal refers to a separate area in the hospital identified to admit critically ill patients requiring life support including inotropes/vasopressors and/or mechanical ventilators. However, there are no governing bodies to monitor the services, quality and facilities required to run an ICU (Acharya, SP, 2014).

Hospitals and ICUs have continued to develop and progress in Nepal over the last decade, however there are no official government data to delineate the number of ICU beds and services. It is estimated that there are around 500 ICU beds in the country. The services, standards, outcomes and efficiency of these ICUs have rarely been published, except for very few hospitals. (Acharya, SP, 2014)

Shrestha et al. (2011) conducted a survey of ICUs within the Kathmandu Valley and included 51 hospitals from a list of 50+ bed capacity hospitals obtained from the Ministry of Health. Of these, 11 (22%) were government hospitals, 8 (16%) were community hospitals and 32 (63%) were private hospitals. Out of these 51 hospitals 33 (65%) had ICU facilities. There were 48 Intensive Care Units, with 331 ICU beds, which comprised 4.7% of total hospital beds. There were only 161 ICU beds with facilities for mechanical ventilation, which comprises only 2.3% of total hospital beds.

Though no guidelines have been put forward regarding nurse patient ratio in ICUs in Nepal, most ICUs run a 1:2 to 1:3 nurse to patient ratio. A few short-term courses are provided for nurses in critical care. One such program is the three-month ICU training for nurses being conducted regularly by the Nursing In-Service Education Unit at Tribhuvan University Teaching Hospital, Maharajgunj. One other short course is running as BASIC for Nurses. There are no respiratory therapists in Nepal and thus the Anesthesiology team usually managed mechanical ventilators. Nowadays, it is the medical intensivist who manages the critically ill patient requiring mechanical ventilation. Other healthcare staff, such as dieticians, pharmacists, and physiotherapists have supporting roles in critical care, but their involvement is minimal as they are only called to the ICU as needed. There are no ICU specific training programs for these health care workers in Nepal.

THE FIRST ICU NURSE OF NEPAL

"Building the foundation was the most difficult thing" Ms Rameswari Shrestha said on her speech during the First International Conference of Critical Care Nurses Association of Nepal (CCNAN). Ms Shrestha set up the five-bed ICU at Bir Hospital between 1972-3 and has been involved in developing ICUs in Nepal ever since, and even in retirement she continues to speak at conferences and events (see Figure 2). Her commitment and reinforcement made hospital management realize the need for Critical Care Units and the impact they can have on patients with serious injuries and illnesses.

CRITICAL CARE NURSES ASSOCATION OF NEPAL

The thought of developing the Critical Care Nurses Association of Nepal (CCNAN) started in 2014 when a group of enthusiastic nurses working in Intensive Care Units in Kathmandu had preliminary discussions about Critical Care Nursing in Nepal. They decided to form an official organization with the aim of improving Critical Care Nursing in Nepal; but it was never an easy journey. The ad-hoc committee was formed with eleven members with Ms. Meena Pun as President and Ms. Bimala Shrestha as Vice-President and the

Figure 2. The first critical care nurse of Nepal, Ms Rameshwori Shrestha, and Founding President of WFCCN Ged Williams at the first international conference of CCNAN, Kathmandu, Nepal, November 2017

association was named as the CCNAN. Hard work and persistence paid off and CCNAN was officially registered as an association in November 2016. That day filled the team with new hopes and commitment for the future of Critical Care Nursing in Nepal. Since then CCNAN has been conducting its activities in collaboration with various other organizations such as the Nepal Critical Care Development Foundation and Nepalese Society of Critical Care Medicine (NSCCM) with the aim to enhance the skills and knowledge of critical care nurses and to promote critical care services across Nepal.

The eleven founding executive members of CCNAN (see Figure 3) conducted a one-day nursing session at the Second National Conference of NSCCM in November 2016, where it was decided to conduct our own conference in the coming year. In addition to planning the first CCNAN conference, we started to network internationally and two executive members were invited to participate in the 13th Emirates Critical Care Conference, Dubai in April 2017 and also attended Critical Care Nursing meetings conducted by WFCCN. It was at this forum that the CCNAN representatives were invited to present the development of CCNAN and got the opportunity to network with many other critical care nursing leaders from Asia, Africa and the Middle East. Networking with leaders from WFCCN afforded us the opportunities to learn more about international collaboration and invite international delegates to the first conference of CCNAN.

CCNAN has evaluated the education and training needs of critical care nurses in the country. The executive members decided to endorse BASIC for Nurses and the Infection Prevention and Control Workshop. BASIC for Nurses mainly focuses on providing an introduction to intensive care nursing for novice ICU nurses. There is a strong focus on the practical needs of the novice ICU nurse, with theoretical aspects being limited to those issues that are directly relevant to an understanding of clinical practice. Instructors from the Chinese University of Hong Kong came to Nepal to run the BASIC for Nurses in Nepal (see Figure 4), conducting the program in many hospitals in Kathmandu valley (TU Teaching Hospital, Grande International Hospital, Nepal Cancer Hospital and Research Centre, Dhulikhel Hospital) as well as outside valley (Biratnagar, Pokhara, Chitwan, Jhapa). CCNAN nurses are now capable to run the BASIC and the Infection Prevention and Control Workshop independently in a number of the participating hospitals.

Both of these workshops have been supported by the Nepal Critical

Figure 3. Founding executive members of Critical Care Nurses Association of Nepal

Figure 4. Airway management station at BASIC for Nurses, Kathmandu, Nepal

Care Development Foundation (NCCDF). NCCDF is a non-government organization developed with the aim of helping poor patients by supporting their health care costs. CCNAN has now started a Critical Care Nurses Instructor Training Program (CCNITP), which is a six-month training program focused on providing long term training to the nurses who want to pursue a career in critical care. It addresses all the basics and advances of critical care nursing. The training period is divided into a theory and practical session with emphasis on all the skills that need to be acquired by nurses for being competent in critical care. The curriculum and details about this training program are available from the official website of CCNAN.

THE FUTURE OF CRITICAL CARE NURSING IN NEPAL

From humble beginnings, critical care nurses in Nepal are uniting under the umbrella of CCNAN and establishing links with colleagues nationally and internationally. At the first CCNAN conference on 18 November 2017, CCNAN hosted with WFCCN founding president and others, a meeting of critical care nursing leaders from the South Asia region. At this meeting we agreed to form the South Asia Association for Regional Cooperation Federation of Critical Care Nurses (SAARC FCCN). This organization will follow similar principles and ambitions of the geo-political association SAARC. CCNAN is proud to be able to share its support to this endeavor and to become a member of WFCCN and hopefully contribute more broadly to the world of critical care nursing.

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