The Role and Practice of Clinical Nurse Specialist in Taiwan

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Abstract

The objectives of this chapter are to help readers to (1) trace the historic development of advanced nursing practice in Taiwan; (2) identify the conceptualization and cooperative teamwork model of advanced nursing practice in Taiwan; (3) describe the core competencies of advanced practice nursing, the outcomes measures, and evaluation of competencies in different healthcare facilities; (4) distinguish the educational preparation and practice roles; (5) explore challenges and future opportunities in advanced nursing practice development; and finally (6) discuss a brief case of the impacts of advanced practice nursing in significantly reducing the rate of ventilator-associated pneumonia in a large acute hospital setting in Taiwan.

This chapter has been written before the 2020 APN ICN guidelines were published and reflects the views of the authors.

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14.1 Brief History of Clinical Nursing Specialists' Roles and Practice in Taiwan

Taiwan is a small country in eastern Asia with a population of 23.6 million (Department of Statistics 2018a). Its economy has developed rapidly in the last 60 years, with rapid transition from an agricultural to an industrial basis. Taiwan adopted a government-administrated, insurance-based national healthcare system in 1995. Life expectancy in the country has reached a record high of 80.0 years. People aged 65 years and older accounted for 13.2% of the population in 2016, and this proportion will reach 38.9% by 2050 (Department of Statistics 2018b; National Development Council 2016). The changing demands of this growing aging population, the rapid expansion of knowledge underlying practice, and the complexity of Taiwan's healthcare environment require healthcare practitioners to have a high level of scientific knowledge and practice expertise to ensure high-quality patient outcomes. Thus, the reconceptualization of clinical nursing practice competencies and educational programs to prepare professional nurses is essential.

In 1992, the Taiwan Nurses Association (TWNA) developed the Clinical Ladder System (CLS), which aimed to (1) create stability for nurses in the workplace, (2) meet the professional needs of nurses, and (3) promote high-quality nursing care. In the CLS, nurses are ranked using four practice levels from novice (level I, N, N1) to expert (level IV, N4; Fig. 14.1). Progression through the CLS system has been considered to be preliminary training for advanced practice nursing (APN). Since 1996, the CLS has been utilized increasingly in healthcare settings such as medical centers, regional hospitals, and home care and long-term care organizations (TWNA 2017b).

In 2012, the TWNA established the Advanced Nursing Practice Committee to promote APN certification development (TWNA 2017a). Taiwan's Ministry of Health and Welfare also proposed the nursing reform program to redefine the scope of nursing practice, enhance nursing practice with interprofessional and cooperative care, and improve professional nursing tasks (Chen et al. 2016). In February 2016, the TWNA defined the core competencies and scopes of APN and revised the CLS (Fig. 14.1) (Wang et al. 2017a).

14.2 Definition of APN

Advanced practice nurses integrate knowledge from the humanities and science; apply technology and information systems to conduct interprofessional cooperation; develop, implement, and evaluate advanced nursing interventions; enhance the

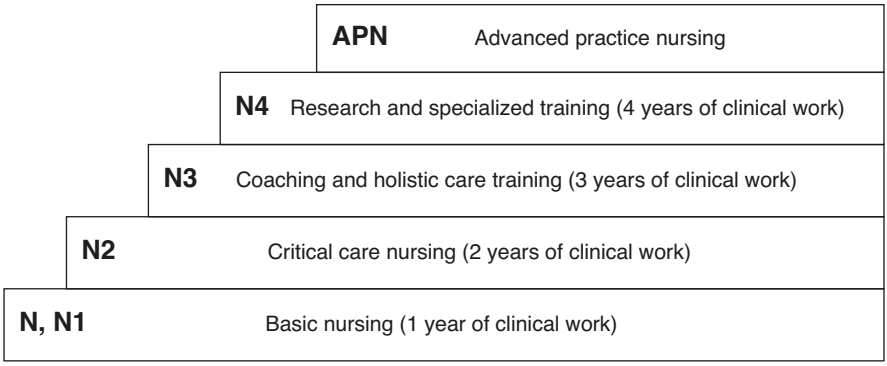

Fig. 14.1 The Clinical Ladder System for nursing in Taiwan

quality of care; promote the health of individuals, families, and groups; and advocate strategies to promote fairness and healthcare policy. Therefore, the definition of clinical APN is advanced nursing with the use of professional knowledge to manage complex situations, make decisions, and expand professional competencies. Advanced practice nurses function as expert clinicians and leaders in advancing nursing practice by caring, teaching, consulting, coordinating, leading, and researching (Wang et al. 2017a).

14.3 Conceptualization and Model of APN

The missions of the Advanced Nursing Practice Committee include definition of the scope of APN, facilitation of its professional development, hosting of APN-related education and training, and promotion of advanced nursing practices and policies at the national level (TWNA 2012). A national survey funded by Taiwan's Ministry of Health and Welfare was conducted in 2014 with a sample of 500 nursing experts (nursing educators, researchers, and administrators and experienced clinical nurses) (Chen et al. 2016). The research team conceptualized APN using a cooperative teamwork model, which involves collaboration with registered nurses (RNs) and nurse aides (NAs) to provide nursing care at different levels (Fig. 14.2). NAs provide basic physical care and assist with activities of daily living and logistics, whereas RNs facilitate the nursing process, health promotion, and disease prevention and communicate and coordinate with the medical team to assure high-quality care delivery. Master-educated APNs act as system leaders, (1) providing higher levels of direct care to patients with complex and difficult needs; (2) working as consultants, coaches, and coordinators for the medical teams and clients; and (3) conducting research and innovation projects to achieve effective care and evidence-based practice, thereby assuring the quality of care and patient safety.

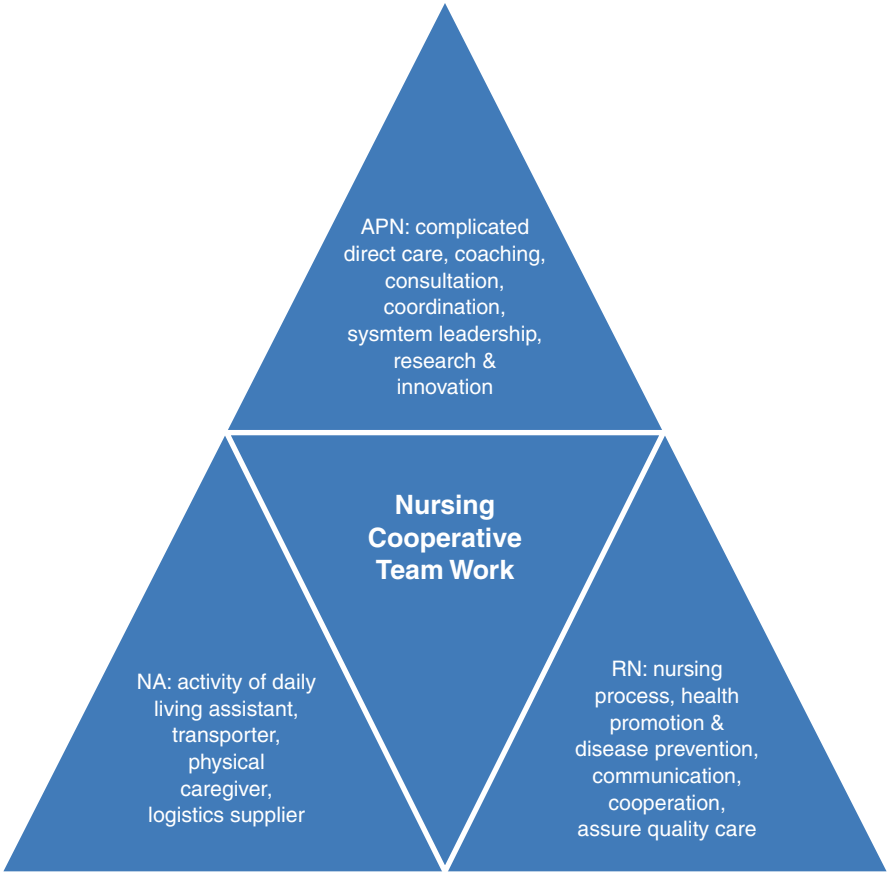

Fig. 14.2 The model of cooperative nursing teamwork (modified from Chen et al. 2016)

14.4 APN Competencies

APN has six core competencies, described as follows (TWNA 2017a):

- **Direct care competence:** Develop and participate in clinical care treatment; manage complex, special, or difficult patients; and provide individual care through using advanced and integrated assessment skills.
- **Coaching competence:** Provide health education guidance for patients and primary caregivers to enhance awareness and self-efficacy in care and health promotion. Provide professional education/or training within medical teams to promote professional academic exchanges.
- **Consultation competence:** Provide professional consultations for patients, primary caregivers, and medical teams, and develop and maintain therapeutic partnerships with patients in order to solve medical care issues together.

- **Coordination competence:** Focus on client-centered care, integrate medical resources, conduct multidiscipline communication and cooperation, and provide consistent high-quality care plans and a safe medical environment.
- **System leadership competence**: Engage in lifelong learning, promote quality care, and manage crisis events to facilitate holistic care in person, family, medical team, and community care system.
- **Research and innovation competence:** Use scientific analysis, discover clinical problems, conduct clinical research based on evidence-based studies, and develop innovative care and standards.

14.5 Outcome Measures and Evaluation

APN performance and outcomes should be evaluated according to the six core competencies recognized by the TWNA (2012). The direct care, coaching, consultation, coordination, system leadership, and research and innovation are performed in a wide variety of healthcare systems, with outcome measures differing, sometimes markedly, among care settings. For example, the first nurse-led peripherally inserted central venous catheter team successfully provided services, ensuring safe and comfortable delivery of chemotherapy, to patients with cancer (Chang and Wang 2004). A neonatal ward employed a nurse specialist as a case manager for low birth weight infants, successfully reducing hospitalization rate after birth (Lee and Wu 2005). Recently, advanced practice nurses have provided evidence-based appraisals and clinical recommendations (Sun et al. 2018). APN core competencies are presented collectively in the practices. However, APN roles in Taiwan are newly developed, and many obstacles have challenged the profession (Chen et al. 2007; Wang et al. 1995). More research is needed to clearly define outcome measures and evaluate the impact or contribution of APN in Taiwan.

14.6 APN Education

Advanced nursing education in Taiwan has comprised master's and doctoral programs for decades. The master's education program was initiated in 1979. Currently, 19 universities and colleges provide master's programs for such APN roles as clinical nurse specialist, advanced community health nurse, nurse practitioner (NP), clinical research nurse, and nurse midwife. The PhD program was initiated in 1997 and is currently offered by 11 universities in Taiwan (Wang et al. 2017b). Societal changes affecting healthcare needs have provided opportunities for the development of new APN roles. A position statement for master's education was endorsed by the TWNA, Taiwan Nurse Practitioner Association, and Taiwan Nurses Education Association in 2017 (TWNA 2017a). The aim of this master's education is to cultivate registered nurses with advanced clinical competencies to meet the healthcare needs of the society. Students should be able to integrate knowledge from the humanities and sciences, apply technology and information systems, participate in

multidisciplinary collaboration, and advocate strategies for the development of healthcare policies reflecting justice and equality. The master's programs cultivate the six APN core competencies. The APN curriculum in master's education has three domains (TWNA 2017a):

1. Advanced professional domain knowledge, including advanced pathophysiology, advanced theory, and concept courses in the specialty area
2. Research, including methodologies for evidence-based healthcare and clinical decision-making, as well as a 6-credit hour thesis
3. Clinical practicum hours, including sufficient advanced clinical practicum hours (at least 288 hours for non-NP programs and 504 hours for NP programs, according to Taiwan's NP accreditation law)

A total of 36 credit hours of coursework, including domain knowledge, research, and clinical practicum, is required for graduation.

The main developmental differences between NP and advanced APN in Taiwan are presented in Table 14.1. NPs receive training in specific certified teaching hospitals for 6 months, and the training program consists of 184 hours of lectures and 504 hours of clinical practicum. The NP training lectures focus on differential diagnosis, pathophysiology, and medical treatments. The certification of teaching hospitals for NPs is accredited by the Ministry of Health and Welfare in Taiwan. The main role of NPs is to cooperate with physicians in implementing medical treatments and working in a specific specialty focusing on patients and families in hospitals. APNs are required to complete graduate nursing programs on developing system skills and emotional and intellectual competency. The expectations of APNs are to develop expert competence in self-awareness, resilience, handling difficult information, active coaching and mentoring, and participation or cooperation on interprofessional teams within organization(s) to address ethical risk issues and inform patients of the risks and benefits and the outcomes of healthcare.

14.7 Moving Forward: Challenges and Opportunities

APN in Taiwan is still evolving. APN education programs and credentialing regulations are in place, with some challenges ahead and emerging opportunities.

14.7.1 Challenges

Undergraduate nursing education programs vary in terms of the qualification, maturity, and humanistic literacy of students, with differences in curriculum designs (Chao 2008; Chao et al. 2010). Furthermore, the RN licensure examination has had a low passing rate of around 50% (Ministry of Examination 2017). These students are APN program candidates. RNs should have soundly developed basic nursing competencies before moving toward advanced roles.

Table 14.1 Description of the developmental differences between NP and APN in Taiwan

Developmental differences	Nurse practitioners (NP)	Advanced practice nurses (APN)
Criteria	• Licensed as a professional registered nurse • At least an Associate Degree of Nursing • At least 3 years of nursing clinical experience • Must attend a training program provided by specific certified teaching hospitals for 6 months and accredited by the Ministry of Health and Welfare in Taiwan • Training consists of 184 hours of lectures and 504 hours of clinical practicum	• Licensed as a professional registered nurse • At least a Master's Degree of Nursing • At least 5 years of nursing clinical experience • At least nursing clinical ladder 4 (N4) level • Completed at least 288 hours of advanced clinical nursing practicum • Member of the Taiwan Nursing Association
Certification	• Passed the National State Board written exam and Objective Structured Clinical Exam within 2 years • Certified by the Taiwan National State Board	• No National State Board exam required • Certified by the Taiwan Nursing Association
Credential	• Recognized and approved by the Taiwan National State Board • 120 contact hours of continued education required for the renewal of NP license every 6 years	• Recognized and approved by the Taiwan Nursing Association • 120 contact hours of continued education required for the renewal of APN license every 6 years
Clinical expertise	• Competency and excellence with patients and families by assisting physician in medical assessment and differential diagnosis and implementing some medical treatments (wound care, physical assessment, some symptom treatment)	• Hands-on direct care • Excellence with patients, families, and related system-level initiatives
System skills	Communication bridge between physician and nurse	Role models skills to other nurses, coaches development of skills; collaborates with and provides consultation to other members of the healthcare team
Practice setting	• Hospitals	• Hospitals • Community settings • Home care agencies • Long-term care facilities • Nursing homes • Assisted living facilities • Rehabilitation facilities

(continued)

Table 14.1 (Continued)

Developmental differences	Nurse practitioners (NP)	Advanced practice nurses (APN)
Clinical focus	Within a specialty unit (e.g., medical, surgical, pediatric, psychiatric or obstetrics and gynecology)	Within specialty organizations/systems and populations: critical care, medical, surgical, pediatric, clinical research, clinical nursing education, infection control, oncology, hospice care, diabetes educator, gerontology nursing care, quality assurance, long-term care and others

Note: NP can be also considered as APN, if NP completed the master's education program and met the criteria of APN

The state-issued APN credential and the APN license are not officially required by the Taiwanese government (Chao et al. 2010), but the TWNA accredited the APN certification in 2016. As APN is in an early phase of development, institutions (e.g., medical centers) have created few APN positions, and the information about the impact of APN on the quality of care is limited (Chang et al. 2003; Feng et al. 2015). Thus, more evidence-based knowledge regarding the impacts of APN on the quality of care, patient outcomes, and healthcare costs is critically needed.

14.7.2 Opportunities

In Taiwan, emerging needs promote advanced nursing education and the enhancement of evidence-based clinical practice in various healthcare settings. The country's Ministry of Education has promoted nursing education reform by establishing the Taiwan Nursing Accreditation Council (TNAC) in 2006 and by overseeing peer-reviewed evaluation of various nursing education programs (Chao et al. 2010). The aims of the TNAC are to identify strategies to minimize the gap between nursing educational programs and clinical practice (Chao et al. 2010). Following recommendations for reform, many nursing schools have consolidated their programs to focus on the translation of scientific knowledge and research findings and the implementation of evidence-based nursing practice and research (Chen 2014). Preparing nurses to perform evidence-based clinical practice, promote healthcare quality, improve patient outcomes and safety, and promote the cost effectiveness of services is crucial.

As the world and its economies are becoming increasingly globalized, with extensive international travel and commerce, global health plays an increasingly crucial role in global security and the security of Taiwan's population. Infectious disease emergencies (e.g., severe acute respiratory syndrome [SARS] outbreak) and other health threats in the world must be minimized or prevented. For example, the majority of public health nurses reported lacked of confidence in implementing extensive quarantine policies (Hsu et al. 2006). With advanced competencies, APN has full capabilities to work with medical team for pandemic control. Thus, the

integration of various global education components into an APN program is critically needed. Fostering of the APN capability to manage any global health-related issue is important. The development of APN clinical competence to lead and cooperate with interdisciplinary teams in dealing with such issues, maintaining the security of the global population and that of Taiwan, is also important.

14.8 APN Case Example

In the pilot case study described here, advanced practice nurses led an interdisciplinary team in executing a revised bundle care protocol to reduce the rate of ventilator-associated pneumonia (VAP) among patients in a surgical intensive care unit (SICU) in northern Taiwan. In February 2013, these nurses identified an increase in the VAP rate from 2.6 to 9.7% among SICU patients after the implementation of the initial standardized bundle care in January 2013. After identifying this poor outcome (American Thoracic Society, & Infectious Diseases Society of America 2005; Wip and Napolitano 2009), they led an interdisciplinary team (including a physician, an infection control team, a respiratory therapist, and clinical nurses) in a project to reduce the VAP rate in this patient population from April to December 2013 by using the following strategies: (1) identifying the factors associated with the increase in the infection rate, (2) evaluating each component of the initial standardized bundle care, (3) integrating the evidence-based practice findings to support or modify initial bundle care components (e.g., revising the oral care guidelines and inspection methods, using hand washing tips and marking labels, and elevating the heads of patients' beds to 30–45° angles), (4) training clinical nurses and the respiratory therapist to apply the revised bundle care protocol for SICU patients and developing the modified bundle care protocol, and (5) evaluating the outcomes of modified bundle care protocol implementation. These advanced practice nurses showed that these measures significantly improved outcomes, increasing the rate of proper implementation of revised bundle care from 48.3 to 93.3% and reducing the VAP rate in the SICU from 9.7% to 0% (Chen et al. 2017).

This case study illustrated several APN competences mentioned above. The APN detected the reasons of poor outcome and effectively reduced VAP rate to present direct care and research competence. Additionally, they managed an interdisciplinary team to solve problems resulting in VAP to demonstrate leadership, consultation, collaboration, and coaching competence.

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