

Development Status of Advanced Practice Nurses in China and Abroad: A Review

Yanwen Zhang *

Master of Nursing in EMILIO AGUINALDO COLLEGE, Manila 1007, Philippines

ABSTRACT

With the advent of the post-epidemic era, science and technology are developing rapidly, and the health care industry is facing tremendous changes. In order to meet the challenges of public health, the special role of advanced practice nurse (APN) has attracted attention. This article reviews the development status, certification system, practice, and development trend of APN in various countries, aiming to provide reference for establishing the APN role and promoting its development in China, and calls for the establishment and improvement of the APN model as soon as possible to help achieve a "Healthy China".

KEYWORDS

Advanced practice nurse; Current status; Development trend

1. INTRODUCTION

Since the beginning of the new century, Chinese professionals have noticed the concept of "advanced practice nurses" in foreign countries and have made plans to introduce it into China [1]. Although the domestic nursing industry has made great progress in recent years along with economic growth, there has been no qualitative change. Nurses are concentrated in positions in hospitals that mainly treat diseases, their work is always subordinate to that of doctors, they are not given enough professional empowerment, their social status is not high, and their career advancement space is limited. This is still the current situation of nurses in China.

Because the APN was first proposed by the United States as an advanced nursing practice role, many concepts have to be clarified in order to discuss the APN. The latest International Council of Nursing (ICN) defines the APN role as "a registered nurse who has acquired a professional knowledge base, complex decision-making skills, and clinical competence to expand practice, whose characteristics are determined by her/his background and/or country of practice" [2]. Under the APN concept, the protected names currently practiced in various countries include: Advanced Clinical Practitioner, Nurse Practitioner, Registered Nurse Practitioner, Clinical Nurse Practitioner, Senior Nurse Practitioner, Advanced Nurse Practitioner, Association Nurse Practitioner, and Clinical Nurse Specialist [3]. ICN divides APN into two categories: Nurse Practitioner(NP) and Clinical Nurse Specialist(CNS). For ease of focus, the following APN refers to the advanced nursing practice roles that meet the APN definition in each country; countries that have not developed the APN role use the corresponding name in their country.

According to the definition of ICN, it can be said that there is no APN in China. However, major hospitals in China are currently developing the role of "Specialized Nurse" or "clinical qualified nurse", and there is a title of "Clinical Nursing Expert". The definitions of Specialized Nurse in China are as follows: Specialized nurses refer to nurses who have certain clinical nursing experience and

have obtained the corresponding specialist qualification certificate through the specialist system training organized by the hospital, school or professional association; Clinical Nursing Expert should be clinical nursing personnel at a higher level, referring to nurses who have undergone systematic theoretical and practical training, have rich clinical practice and theoretical knowledge, and should have a master's degree or above. Clinical Nursing Expert also need to undergo unified qualification certification [4]. Strictly speaking, China's Specialized Nurses are a transitional stage of Clinical Nurse Specialist (CNS) [5]; and the title of "Clinical Nursing Expert" is still a relatively consensus title. Some hospitals use this name in their introductions or publicity, but there is no unified certification. China's Outline for Healthy China 2030 proposes the policy of health and wellness work in the new era: "focusing on the grassroots, taking reform and innovation as the driving force, giving priority to prevention, giving equal weight to traditional Chinese and Western medicine, integrating health into all policies, and building and sharing by the people." With an aging population and rising prevalence of chronic diseases, China has a serious shortage of health care personnel under universal medical insurance coverage. The development of the APN role is an inevitable trend. Many studies [6] have proven that APN can well assume this social responsibility.

2. DEVELOPMENT STATUS OF VARIOUS COUNTRIES

More than 70 countries or regions around the world have defined APN roles. Different healthcare environments, the way APN roles operate, and the specific titles used to identify these nurses vary [2].

2.1. USA

APRN in the United States include nurse practitioners (NP), clinical nurse specialists (CNS), nurse anesthetists, and nurse midwives. Currently, 26 states in the United States have passed comprehensive practice authorization, allowing APRN to fully carry out their education and training without any medical supervision [7]. They are licensed and authorized to: assess patients; diagnose patient problems; order and interpret diagnostic tests; initiate and manage treatment, including prescribing medications under the permission of the state licensing agency and controlled by the National Nursing Board [8]. The services provided by APRN can be reimbursed in state Medicaid and federal Medicare systems [9].

2.2. Canada

Canada recognizes two advanced practice nursing positions, clinical nurse specialist (CNS) and nurse practitioner (NP). The Canadian Association of Nurse Practitioners provides the following definition: In Canada, nurse practitioners (NP) are licensed by the jurisdictional nursing regulatory body. NP are self-employed and independent health care providers who practice after graduation. NP provide direct care to patients to diagnose and manage illness/diseases, prescribe medications, order/interpret laboratory/diagnostic tests, and initiate referrals to specialists [10].

2.3. United Kingdom

The development of advanced practice in the UK began in the 1970s, with the first batch of nurses graduating from the Royal College of Nursing (RCN) Nurse Practitioner course in 1992 [11]. APN receive a Masters in Clinical Practice education and are assessed as competent to apply their specialist clinical knowledge and skills. They have the freedom and authority to act and make autonomous decisions in assessing, diagnosing and treating patients [3]. All four countries in the UK are currently developing or have developed an advanced practice framework, which will help ensure that patients, professionals and healthcare providers benefit from the potential contribution of advanced practice nurses [12].

2.4. Netherlands

In the Netherlands, the APN was first initiated by a university central hospital, and the Hanze University of Applied Sciences established an APN master's program at the end of 1997 based on the American curriculum. Currently, a "certified nurse specialist" is an NP registered with the official Dutch nurse specialist registry who has completed a two-year dual master's degree program - the Master of Science in Advanced Nursing Practice [13]. NP are highly trained, autonomous healthcare professionals who provide advanced care and have an expanded scope of practice. They often work in primary care settings, hospitals, specialist clinics and community health settings. NP in the Netherlands have prescribing rights and can prescribe medications independently within their field of expertise since 2018; they can prescribe both conventional and controlled medications [3].

2.5. France

Since 2018, the role of APN has been legally recognized and regulated. France follows the ICN educational recommendation of a master's degree as the basic requirement. French advanced practice nursing does not distinguish between NP and CNC. The French model is similar to the internationally recognized model, but its APN enjoy prescribing and diagnostic autonomy that is closer to the CNS model [3].

2.6. Republic of Ireland

In Ireland, the first ANP position in minor injury care was recognised in 2002 [14]. The certificate is awarded by the National Nursing and Midwifery Professional Development Council of Ireland, confirming the professional responsibilities and standards of the CNS. The Nursing and Midwifery Board of Ireland (NMBI) is responsible for regulating advanced nursing practice in Ireland. Registered nurses must complete an approved Master of Science course, the standards of which are set by the NMBI. After training at Masters level, the ANP can initiate an investigation and management plan and complete a nursing care episode, recommending discharge or referral to appropriate services as agreed within their scope of practice [15].

2.7. Australia

In Australia, the NP title is protected and can only be used by nurses who are authorised by the National Nursing and Midwifery Registration Board, the Australian Health Practitioner Regulation Agency. A Masters degree specifically for NP is the minimum level of education required to practice. They use the title "Nurse Practitioner" or "Clinical Nurse Consultant" (CNC), depending on the state or territory in which they are based [3].

2.8. Japan

After completing the CNS course at the master's level and passing the certification examination issued by the Japan Nursing Association (JNA), the JNA certifies the nurse as a CNS. The name CNS is protected by trademark registration and is allowed to be used by nurses certified by the JNA. The Ministry of Health, Labor and Welfare of Japan is responsible for regulating nursing and setting standards for advanced practice nursing. APN education is in line with ICN recommendations. It involves completing a master's degree program in nursing (focusing on the desired specialty area) and gaining 5 years of experience [2].

2.9. Singapore

Advanced Practice Nurse (APN) is a protected title in Singapore, and the APN role is a hybrid of the NP and CNS roles. The National University of Singapore (NUS) launched a Master of Science in

Nursing programme in 2003 under the auspices of the Yong Lorin School of Medicine. Since then, it has been the only programme recognised by the Singapore Nursing Board (SNB) to offer APN education, which is a prerequisite for APN certification. After completing the two-year Master's programme, graduates must complete at least one year of structured internship and pass the national licensing examination, the Objective Structured Clinical Examination (OSCE), before applying for APN certification, licensure and registration with the SNB. All APN must meet the minimum number of clinical internship hours and achieve the required continuing education (CNE) points in order to renew their APN licence annually with the SNB [16].

2.10. Thailand

Advanced nursing roles were officially introduced in Thailand in 2003. The role development approach in Thailand is based on the American model; the starting point is a postgraduate degree [17]. The current practice situation requires more literature support.

2.11. Philippines

The Philippines has not yet developed an APN, but they have included the APN title and guidelines in government documents on health care (the Philippine Nursing Practice Reform Act of 2011). Industry experts have called for the establishment of APN regulations as soon as possible based on the advanced practice already performed by nurse anesthetists and some registered nurses in psychiatry and mental health in the country [18].

2.12. China

In 2003, China launched the "Specialist Qualification Certification Nurse" project, and the "Specialist Nurse Standardized Training Program" began in 2005. The experts' initial opinion is that specialist qualification certification nurses are the first step, and on this basis, Specialized Nurse will be developed and trained to gradually reach the internationally recognized clinical nurse specialist (CNS) standards [5, 19]. At present, Specialized Nurse have been developing advanced practice areas, among which specialist intensive care, operating room, emergency, intravenous therapy, blood purification, wound stoma, diabetes, and midwifery are the most professional and relatively mature [20]. These Specialized Nurse exercise the specialist practice areas defined by training in the clinics of various hospitals and play a leading role in the professional field groups of various hospitals.

3. EDUCATION, QUALIFICATION CERTIFICATION AND SUPERVISION

APN have been developed and have been shown to play a role in many healthcare settings across the country, the precise definition of APN in terms of their role, educational preparation, and registration, recognition, or certification often varies across jurisdictions [21].

3.1. Framework Guidance

The experience of many countries is that a structured framework is needed to guide APN education and practice. Hamric 's Advanced Practice Nursing Concept Framework was first published in 1996 and includes three main standards: graduate-level education, national certification, and patient/family-centered clinical practice, one core competency of direct clinical practice, and six core competencies: consultation, evidence- based, practice-based, leadership, collaboration, ethical decision-making, and guidance and coaching; it also identifies the background factors required for successful implementation: favorable health care policies, the development of a legal framework, adequate funding and compensation, organizational and cultural structures, partnerships and communication, and performance evaluation [22].

In the UK, all four countries adopted a four-pillar coordinated approach, including clinical practice, leadership, education and research (core competencies). Clinical practice was seen as the main pillar for development when faced with funding and human resource issues [23].

A structured framework for advanced practice nurses was proposed based on the six domains of advanced practice nursing from the Irish NMBI: professional values and behaviours; clinical decision making; knowledge and cognition; communication and interpersonal relationships; management and teamwork; and leadership and professional scholarship [24].

In Singapore, the SNB has detailed the scope of practice and core competencies of the APN. The core competencies are divided into four areas: professional, legal and ethical nursing practice; nursing management; leadership and management; and professional development. Each competency area has an associated competency standard, and each standard represents a major function/functional area that an APN is to perform [25].

Canada developed a framework for the integration and sustainability of the role of NP in the Canadian health care system under a federally funded NP initiative. NP now practice in a variety of settings and across a variety of models of care. The scope of practice for NP was defined along with common role descriptions and areas of responsibility [26].

Australia reviewed NP standards in 2014 and implemented the following standards: assess and use diagnostic skills; plan care and collaborate with others; prescribe and implement therapeutic interventions; and evaluate outcomes and improve practice [27].

All countries reported that a degree and/or approved educational program was required to become an APN. Almost all countries reported that a master's degree was the primary form of education for APN, suggesting that the 2002 ICN recommendation for a master's degree in advanced practice has had an impact [28].

3.2. National/Government/Local/Association Permits and Certifications

The implementation of advanced practice nursing is complex and requires a systematic approach to defining roles and responsibilities [29].

A global study of advanced practice nursing roles, regulation, education, and practice found that most countries call for registration, licensing, or recognition at some level of government. In a few countries, registration, licensing, or recognition of practice is listed as an institutional level authorization. Canada, Israel, and the United States require passing a certification examination to practice. Continuing practice requirements mainly include maintaining practice, earning continuing education credits, or meeting a combination of requirements on a regular basis. The key to establishing an NP certification program is that the organization providing the certification is nationally recognized and accountable for the specified certification method [28].

for the professional development of APN. Having clear and protected ownership rights provides regulators and the public with a common and understandable reference framework to develop sound regulations and to measure, monitor and discipline the industry [2].

3.3. Supervision and Recertification

The ability to practice is regulated, and the certification is updated regularly. The updating mechanism and requirements must be clear and transparent, which directly affects the status of the profession and its credibility in society. Japanese NP undergo requalification every 5 years. The qualification review includes the achievements in practice, teaching, consultation, coordination and research in the professional field within 5 years. A recent survey in Japan showed that the lack of national recognition and the lack of clear regulations on their practice, compared with the salary and benefits of ordinary

practicing nurses, make their work status unstable, which is the main obstacle to the development of the NP profession in Japan [30].

A recent survey [31] showed that the majority of specialist nurses in China currently hold a bachelor's degree and are mainly intermediate-level nurses. The main problems in the training of specialist nurses are uneven quality, lack of re-certification, and lack of a unified certification body. The certification bodies are mostly specialist nurses certified by nursing associations at all levels, among which the majority are certified by provincial nursing associations, followed by the Chinese Nursing Association. In addition, there are certifications from international organizations, health administrative agencies, medical institutions, and medical associations. It is also recommended to increase the training of master's degree specialist nurses, government departments to issue guidance, and hospital leaders to clarify the job responsibilities and scope of work of specialist nurses to promote the development of specialist nursing. Continued efforts are needed to establish formal nursing education and title protection for nurses to support the best contribution of nurses in health care services.

Among the potential regulatory options shared, there was a general preference for a phased or hybrid approach rather than a single option, recognizing the multifaceted nature of the advanced practice issue. The most popular option was to enhance the basic requirements before establishing advanced practice requirements, including accreditation and the development of educational standards.

Research on advanced nursing practice found that countries that regulate professional titles and scope of practice generally experience greater role clarity, recognition, and acceptance by consumers and other healthcare professionals.

4. CURRENT PRACTICE STATUS

4.1. Practice Outcomes and Barriers

In the United States, these well-trained APNs are at the forefront of healthcare providers, dedicated to expanding the range of healthcare services to the American public, especially in rural and underserved areas. State barriers are mainly related to full, restricted and reduced practice authority, with some institutions requiring physician co-signatures on orders.

A key finding in APN practice in Canada is that the positive impact of CNS and NP roles may be most prominent for high-risk, high-cost, high-volume client populations requiring complex acute and chronic disease management care, from low birth weight infants to frail elderly. APNs play a key role in community development, quality improvement, interprofessional team collaboration, capacity building and health policy development.

Several countries in Europe that have made significant progress in implementing APN roles have expressed hope to improve the quality of care through better management of patients with chronic diseases, where APNs play a leading role. Studies have shown that nurse participation in advanced practice in emergency and intensive care can improve hospital length of stay, consultation/treatment time, mortality, patient satisfaction and cost savings.

The barriers to implementing advanced nursing practice are quite similar across countries. These include opposition from certain stakeholders (especially medical staff), regulatory barriers (including outdated and overly restrictive scope of practice laws), funding and reimbursement schemes (if they do not properly recognize these new roles), or slow acceptance at the organizational level (due to lack of strong leadership and poor change management strategies). In France, the implementation of advanced practice nursing faces several obstacles: including insufficient revenue generation (primary care), lack of position creation (secondary/tertiary care), dependence on doctor referral processes and delays in prescription certificate approval.

Currently, the specific practice responsibilities of specialist nurses in China include: participating in hospital specialist nursing problem consultations, participating in teaching and quality control work in specialist practice areas, and participating in nursing outpatient clinic visits.

5. CURRENT PRACTICE

5.1. Achievements and Barriers

In the United States, these well-trained APN are at the forefront of healthcare providers, dedicated to expanding healthcare services for the American public, especially in rural and underserved areas. State barriers are mainly related to full, restricted, and reduced practice authority, with some institutions requiring doctors to co-sign medical orders [3].

In Canada, a key finding in APN practice is the positive impact of the CNS and NP roles on high-risk, high-cost, high-volume client populations requiring complex acute and chronic disease management care, from low birth weight infants to frail elderly individuals. APN play a crucial role in community development, quality improvement, interprofessional team collaboration, capacity building, and health policy formulation.

In several European countries that have made significant progress in implementing the APN role, there is a desire to improve care quality by better managing patients with chronic diseases, where APN play a leading role. Studies have shown that advanced practice by nurses in emergency and intensive care can improve hospitalization time, consultation/treatment time, mortality, patient satisfaction, and cost savings [6].

The barriers to implementing advanced nursing practice are quite similar across countries. This includes opposition from certain stakeholders (especially medical personnel), regulatory barriers (including outdated and overly strict scope of practice laws), funding and reimbursement plans (if these new roles are not properly recognized), or slow acceptance at the organizational level (due to lack of strong leadership and poor change management strategies). In France, implementing advanced practice nursing faces several obstacles: insufficient revenue generation (primary care), lack of position creation (secondary/tertiary care), dependence on physician referrals, and delays in prescription certification approval.

The specific practice responsibilities of specialist nurses in our country currently include participating in hospital specialty problem nursing consultations, participating in teaching and quality control work in specialty practice areas, and participating in nursing outpatient visits.

5.2. Nurse Prescriptive Authority

As one of the most unique and prominent practices in advanced nursing practice, medication prescription has a significant impact on patient treatment outcomes. Since the development of advanced nursing practice, nurse prescribing authority has been a hot topic at international nursing conferences. In 2021, the International Council of Nurses released the world's first "Guidelines on Nurse Prescribing Authority". In the United Kingdom, APN can independently prescribe appropriate medications, provided they have completed independent prescribing qualifications. In 2018, the Singapore Ministry of Health, the Alice Nursing Research Centre of the National University of Singapore, and the Department of Pharmacy of the National University of Singapore jointly developed and co-hosted the three-month National Collaborative Prescribing Program (NCPP) to prepare APN and pharmacists for prescribing under collaborative practice agreements with practicing physicians. This course is held twice a year. Some APNs have received or are awaiting authorization to prescribe medications without physician signatures.

Regarding nurse prescribing authority in China, a study suggests that the qualifications for nurse prescriptive applicants should include working in a tertiary hospital, holding the title of charge nurse, having a bachelor's degree in nursing, and having five years of clinical work experience.

A qualitative study in the Philippines indicates that the role of advanced nursing practice tends to specialize rather than expand and break through the scope of practice, which differs from global standards. This is similar to the development trend of specialist nurses in our country. Is this the bottleneck for countries that have not yet developed APN? The study provides meaningful insights into how nurses, trained through targeted programs, transition to APN.

6. DEVELOPMENT TRENDS

6.1. Healthcare Trends

APN have become the foundation of primary care in the United States. Nurses excel at providing certain healthcare services, such as health promotion, counseling, and education, as well as coordinating care with other healthcare professionals. The expectation for APN in some developed countries is to provide healthcare services at various practice settings to individuals, families, communities, and populations. APN emphasize clinical practice, whether through direct relationships with clients and/or through indirect activities such as care coordination and providing clinical expertise by consulting with other healthcare providers about clients' health conditions. One characteristic of countries that have developed APN is that the development of APN programs usually begins with the demand for healthcare services.

Most NP in Japan work in hospitals. This may be because Japan does not have a primary care provider or general practitioner system, and in some cases, large tertiary hospitals are responsible for primary care. In terms of service departments, research has found that NP are active in various clinical settings of intensive care, including emergency departments, internal medicine, and surgical departments; geographically, NP are mainly concentrated in Tokyo and Kanagawa prefectures, where the population is large and the number of hospitals is high. In these aspects, the practice environment and development status in our country are very similar to Japan.

The focus of future healthcare trends is shifting from disease treatment to prevention, and health promotion has now become an important role function in nursing.

The scope of practice for APN can be evaluated progressively from low to high: client needs, individual nurse competencies, employer wage policies, professional guidelines/standards/position statements, registered nurse professional systems, and health professional or nursing legislation. This can provide a reference for countries wishing to develop the APN role.

6.2. Independence and Multidisciplinary Collaboration

On the one hand, APN should maintain the core of the nursing profession, leveraging their advantages in prevention and health promotion, rather than becoming overly "medicalized." On the other hand, it is necessary to ensure that APN independently exercise their qualifications in their respective practice areas and realize their potential. In the early stages of APRN implementation in the United States, trained nurses needed to work under strict collaborative agreements supervised by doctors. However, as the APRN developed to a certain stage, this became a serious hindrance, and states began to call for expanded APRN practice legislation, until all states currently authorize it.

Personalization is hindered by restrictive guidelines, regulations, and medical control. To address this issue, it is essential to position the APN role as an important and unique part of the healthcare system and challenge the hierarchical structure that positions APN as subordinate roles. It is crucial for APN to operate independently, expressing their authority and being recognized as practitioners in their own

right rather than as medical substitutes. Experts warn of the dangers of ANP working within a "medical framework," fearing that APN may become medicalized and lose their nursing focus, while patient-centered care is considered fundamental and unique to APN. The APN role can adapt to national development but ultimately must not deviate from the core of nursing. Using more comprehensive advanced nursing to meet the future demand for preventive healthcare with a large population will meet the requirements of all parties.

A study in the United Kingdom showed that the understanding of staff about the APN role is a key factor in the effectiveness of team collaboration. Doctors who work with APN highly appreciate their work, whereas those who have not collaborated with them express concerns about the APN role and its capabilities. A qualitative study indicated that good collaboration between ANP and doctors could increase the adaptation of the APN role and boost their practice confidence. Accordingly, doctors would appreciate the APN' practice abilities, considering them stronger than regular nurses.

In Canada, the requirement for APN is that they can and must collaborate with other health professionals and system leaders to ensure better health, better care, and better value for all Canadians. Pre-establishing high-quality interprofessional collaborative teams, with a clear APN role, is crucial for APN to achieve positive outcomes with clients.

6.3. Raising Social Awareness

For countries where APN are still in the development stage, support from legislators, healthcare decision-makers, administrators (i.e., community, hospital, and other healthcare sectors), and various institutions is vital for APN to fulfill their role functions [18].

However, research shows that many countries in the early stages of APN implementation seem unaware of the long history of role development in other countries, often thinking that policy and legislation are the starting points for role implementation. In reality, role evolution usually occurs 10 years or more before clear policy or legislation is implemented. The issue of the APN role should not be simply categorized as role substitution but should emphasize how nursing addresses unmet needs or improves the quality and effectiveness of healthcare. Furthermore, relevant interest groups should ensure that the contributions of nursing are clear and continue to voice strong support for roles working in specialized practice areas, such as promoting the benefits of APN to patients, doctors, stakeholders, and organizations, collaborating with organizations to promote the APN role, and raising awareness through publications and presentations on the success of advanced practice roles, advocating for the APN role [3].

A study in Ireland on APN development presented novel perspectives, suggesting that the ANP system should enhance autonomy through personalization and differentiation to achieve its power. The hierarchical structure that places APN in subordinate roles should be challenged. The process of integration and homogenization is reflected in collaborative practice. It is recommended that APN recognize and articulate the value and diversity they bring to the health system to strengthen their contribution to the health system.

7. CONCLUSION

Based on the above content, it is recommended that future nursing graduate education in our country should effectively align with the clinical expectations of APN, clarifying the training direction for higher nursing education. It is urged that relevant experts put the issue on the agenda, breaking through role transition based on the national conditions and the current situation of the nursing industry, as well as the achievements of developing specialist nurses. The government and relevant departments should introduce relevant policies and regulations, protect titles, and clarify the scope of APN authority. Drawing on the experience of developing specialist nurses in our country and learning from the development, barriers, and achievements of APN abroad, we should improve the

development of the APN role in our country from various aspects, including education, policy, qualification certification, and regulatory standards. Given the current needs of healthcare development in our country, it is believed that APN will play a significant role in expanding nursing professional practice and achieving the goal of "Healthy China."

ACKNOWLEDGEMENTS

The work was supported in part by Research Special Project of Shanxi Federation of Social Sciences: Exploration of the mode of "Internet plus+medical service+massive health industry construction" (DJKZXKT2023082).

REFERENCES

- [1] Jiang, A. L. (2002). [The status and prospects of advanced nursing practice and advanced practice nurses].
- [2] International Council of Nurses. (2020). Guidelines on advanced practice nursing.
- [3] Mackavey, C., Henderson, C., van Leeuwen, E. D. Z., Maas, L., & Ladd, A. (2024). The advanced practice nurse role's development and identity: An international review. *International Journal for Advancing Practice*, 2(1), 36-44.
- [4] Wang, X. J., & Shen, N. (2012). [Discussion on the concept of specialist nurses and clinical nursing experts in China].
- [5] Wang, L. H. (2013, December 23). [Thoughts on positioning specialist nurses]. Capital Medical University Sanbo Brain Hospital Nursing Garden.
- [6] Woo, B. F. Y., Lee, J. X. Y., & Tam, W. W. S. (2017). The impact of the advanced practice nursing role on quality of care, clinical outcomes, patient satisfaction, and cost in the emergency and critical care settings: A systematic review. *Human Resources for Health*, 15, 1-22.
- [7] Boehning, A. P., & Punsalan, L. D. (2023). Advanced Practice Registered Nurse Roles.
- [8] Kleinpell, R., Myers, C. R., Likes, W., & Schorn, M. N. (2022). Breaking down institutional barriers to advanced practice registered nurse practice. *Nursing Administration Quarterly*, 46(2), 137-143.
- [9] Reimbursement Task Force and APRN Work Group, of WOCN Society National Public Policy Committee. (2012). Reimbursement of Advanced Practice Registered Nurse Services: A fact sheet. *Journal of Wound, Ostomy and Continence Nursing*, 39(2 Suppl), S7-16.
- [10] Canadian Nurses Association. (2018).
- [11] Defending Dignity - Challenges and opportunities for nursing. (2008).
- [12] Swaby, K., Reynolds, J., & Mortimore, G. (2022). The past, present and future of advanced nursing practice. *Practice Nursing*, 33(4), 150-154.
- [13] V&VN. (2022). How to become a nurse practitioner in the netherlands.
- [14] Government of Ireland. (2008).
- [15] Nursing and Midwifery Board of Ireland (NMBI). (2015). Scope of Nursing and Midwifery Practice Framework.
- [16] Ayre, T. C., & Tan, S. B. (2014). Advanced practice nursing in Singapore. *Proceedings of Singapore Healthcare*, 23(4), 269-270.
- [17] Rakhab, A., Jackson, C., et al. (2021). Factors supporting career pathway development amongst advanced practice nurses in Thailand: A cross-sectional survey. *International Journal of Nursing Studies*, 117.
- [18] Rakhab, A., Jackson, C., et al. (2015). Advanced practice nursing in the Philippines: Are we there yet?. *Philippine Journal of Nursing*, 85(2), 76-79.
- [19] Zhang, J. W., & Chu, B. S. (2021, May 12). [When "little nurses" become "big experts"]. *Fujian Daily*, p. 4.
- [20] Chen, H. M., Hsu, Y. Y., Shen Hsiao, S. T., et al. (2022). Metamorphosis of Nurses: The Development and Breakthroughs of Advanced Practice Registered Nurses. *Hu Li Za Zhi*, 69(5), 44-55.
- [21] International Council of Nurses. (2023). Guidelines on Advanced Practice Nursing.
- [22] Hamric, A. B., Hanson, C. M., Tracy, M. F., & O'Grady, E. T. (2013). *Advanced practice nursing: An integrative approach* (6th ed.). Elsevier Health Sciences.
- [23] gpworld.co.uk. (2024, January 12). How to become an advanced nurse practitioner in the UK.
- [24] Advanced Practice (Nursing) Standards and Requirements. (2017).
- [25] SNB - Singapore Nursing Board. (2024).

- [26] Guidelines on the Grant of Collective Negotiation Agreement (CNA) Incentive for FY 2016. (2016).
- [27] Meeting of the Nursing and Midwifery Board - 24 April 2014. (2014).
- [28] Wheeler, K. J., Miller, M., Pulcini, J., Gray, D., Ladd, E., & Rayens, M. K. (2022). Advanced practice nursing roles, regulation, education, and practice: A global study. *Annals of Global Health*, 88(1).
- [29] Andregård, A.-C., & Jangland, E. (2015). The tortuous journey of introducing the nurse practitioner as a new member of the healthcare team: A meta-synthesis. *Scandinavian Journal of Caring Sciences*, 29(1), 3-14.
- [30] Suzuki, M., Harada, N., Honda, K., et al. (2022). Facilitators and barriers in implementing the nurse practitioner role in Japan: A cross-sectional descriptive study. *International Nursing Review*, inr.12790.
- [31] Ding, Y. M., Wu, X. J., Tian, J. Y., et al. (2021). [Investigation on the current situation of training and management of specialist nurses in tertiary hospitals in 31 provinces of China]. *Chinese Journal of Nursing*, 56(9), 1357-1362.