



SPECIAL ARTICLE

Academic training for advanced practice nurses: International perspective[☆]



Leticia San Martín-Rodríguez*, Nelia Soto-Ruiz, Paula Escalada-Hernández

Departamento de Ciencias de la Salud, Universidad Pública de Navarra, Pamplona, Navarra, Spain

Received 3 July 2018; accepted 9 August 2018

Available online 22 November 2018

KEYWORDS

Advanced practice nurses;
Training;
Europe;
International

Abstract This article presents a general analysis about academic training of Advanced Practice Nurses at international level. Firstly, some essential and global characteristics of advanced practice training, the core competencies and the difficulties found in the implementation of the academic training programs for these figures are presented. Secondly, the reality of advanced practice training in our country is explained, with emphasis on some university programmes at Masters, level and the expansion of the official nursing specialties. Then the European situation is addressed, showing a great variability among countries in the implementation of these roles, as well as an important heterogeneity in the academic training associated with their performance. Lastly, continuing with the international perspective, the academic training for advanced practice nurses in the USA, Latin America, Africa, Asia and Oceania is described.

© 2018 Elsevier España, S.L.U. All rights reserved.

PALABRAS CLAVE

Enfermera de práctica avanzada;
Formación;
Europa;
Internacional

Formación de las enfermeras de práctica avanzada: perspectiva internacional

Resumen En este artículo se realiza un análisis general sobre la formación de las enfermeras de práctica avanzada a nivel internacional. En primer lugar, se presentan algunas características esenciales y globales de la formación en práctica avanzada, las competencias centrales y las dificultades encontradas en la implantación de programas formativos para estas figuras. Posteriormente, se expone la realidad de la formación de práctica avanzada en nuestro país, haciendo especial hincapié en algunos programas universitarios a nivel de máster y la expansión

DOI of original article: <https://doi.org/10.1016/j.enfcli.2018.08.004>

[☆] Please cite this article as: San Martín-Rodríguez L, Soto-Ruiz N, Escalada-Hernández P. Formación de las enfermeras de práctica avanzada: perspectiva internacional. *Enferm Clin.* 2019;29:125–130.

* Corresponding author.

E-mail address: Leticia.sanmartin@unavarra.es (L. San Martín-Rodríguez).

de las especialidades oficiales de enfermería. A continuación, se aborda la realidad europea, con una gran variabilidad entre países con relación a la implantación de estos roles, así como una gran heterogeneidad en la formación vinculada a su desempeño. Por último, la perspectiva internacional nos lleva al análisis de la formación de enfermeras de práctica avanzada en EE. UU., Latinoamérica, África, Asia y Oceanía.

© 2018 Elsevier España, S.L.U. Todos los derechos reservados.

Introduction

The advanced practice nurse (APN) dates back to the middle of the 20th century in the U.S.A. when the Nurse Practitioner (NP) and Clinical Nurse Specialist (CNS) roles appeared. The NP arose as a solution to the lack of primary care physicians and consequently their "advanced practice" is based on the acquisition of skills such as assessment, diagnosis and treatment, necessary for autonomously managing certain types of patients,¹ whilst the CNS responds to the need for manager nurses to have someone who could help them train their staff in care quality, so that their advanced practice was upheld in actual nursing care.²

The literature confirms that worldwide there is a great variety of terms used to refer to the different figures of APN. Part of the problem resides in the tendency to refer to "advanced practice" figures to all those nurses who are different from the figure of the traditional general nurse.³ In a study conducted in 32 countries by Pulcini et al.,⁴ 13 different names were found for APNs. However, the 2 most common ones worldwide, within advanced practice, continue to be the NP and the CNS.

In the literature there is not only evidence of variability with regards to the naming of different APN figures, there are also key aspects, such as the practice environment, the regulation of practice or the necessary training requisites for access to these roles. It is therefore important to establish official training programmes for APNs.⁴ Inconsistencies in education policies and in access to post-graduate studies is one of the main barriers to the development of these nurses.⁵

In 2008 the International Council of Nursing (ICN) made an attempt to come up with a consensual international definition of the APN and defined the APN as a nurse with expert knowledge, capable of taking complex decisions and with the necessary competences to carry out broad practice, with recommendation of training at a master degree level.

This article offers a general analysis on the training of APNs. Firstly, we will present several essential and overall characteristics of training in advanced practice and after this we will address the different realities of APN training in Spain, Europe and the rest of the world.

The training characteristics of advanced practice nurses

Some unanimity exists for recognition that the different existing APN figures on an international level require training beyond basic degree level nursing.⁶ In this regard it has been proven that the training level of nurses is closely linked to the undertaking of advanced practice activities.⁷

Approximately 70% of countries with APNs have official training programmes for access to this role.⁴ the majority of them are based on master's degree level university studies, which in half of the cases coexist with other post-graduate courses.⁴ The role further education facilities need to fulfil in this training is therefore widely internationally recognised.⁸

One of the essential aspects required of university programmes for training APNs is that the curriculum be geared towards the development of competences.^{9,10} It is essential that training begins with the acquisition of an ability for critical thinking, problem solving and clinical judgement, through learning methods based on problems, clinical cases and concept-based learning.⁹

To obtain the maximum benefit from the APNs, both for the patient and for healthcare organisations and the system itself, the need to optimise the "non clinical" APN dimensions has been highlighted. These include research, evidence-based practice and quality optimisation.¹¹ According to the well-known model by Hamric et al.,¹² it is the "non clinical" competences of the APN, which go beyond those of direct clinical practice which are recognised. These include coaching, consultancy, leadership research, collaboration and ethical decision making. Evidence shows that the development of roles, such as that of research or leadership by the APNs is related to the increase in the level of training and most particularly in master degree level training.⁷

The inclusion of clinical simulation in APN training is also a key element for the educational programmes of these nurses.^{9,10} Clinical simulation means acquiring competences safely and being able to resolve the problems identified in many countries, as a consequence of the lack of clinical practice posts for these professionals. Furthermore, simulation is an ideal methodology for the development of interprofessional collaboration. According to the literature,

interprofessional education is precisely one of the cornerstones of APN training programmes.^{9,10}

However, the literature also describes the existing limits to the development of training programmes for APNs. Highly qualified teachers are needed, as are low teacher/student ratios and the few existing clinical practice positions available are barriers limiting the offer of training for these nurses. This is also a problem in the different international contexts.^{8,9}

To solve these problems, innovative strategies are being explored, such as the establishment of alliances between 2 or more universities for the development of joint programmes or collaborations between universities and healthcare institutions, aimed at developing new structures to offer advanced training practice to nurses.¹³

Advanced practice nurses training in Spain

Many autonomous communities in Spain have put different initiatives into practice which include innovative profiles to develop skilled and more highly complex practice and autonomy than that provided by the general care nursing certificate. An attempt is therefore being made to respond to the new care demands, principally with regard to caring for chronic diseases.^{14,15} Some of these experiences are the Emergency care for lesser diseases in Primary Care in Catalonia,¹⁶ the Management of home-based and hospital care cases in Andalusia,¹⁷ the Advanced clinical nurse of the Basque Country¹⁸ and the Professional accreditation in Andalusia for oncology APNs, APNs in caring for people with complex chronic wounds and APNs in care of people with ostomies.^{19,20} The nurse manager is probably the most common figure here and, apart from being present in Andalusia, is also to be found in other autonomous communities such as the Community of Valencia, Murcia, Aragon, Madrid and Navarre.^{15,21} However, none of these roles require post-basic specific training and none of them exactly coincide with the traditional roles of the NP and CNS.

Also, for some years it has been possible to study different advanced practice courses in Spain, as a master's degree or other types of qualifications and either with on-site, semi-on-site or online classes. A few examples of these are the University Master's Nursing Research and Advanced Professional Practice of the University of Cadiz,²² the Master in Advanced Practice Nursing in complex chronic patient care of the European University of Madrid,²³ the master in Advanced Practice and Nurse management of the University of Navarre²⁴ — the oldest of all courses offered, now in its tenth year — or the Advanced Practice Nursing Master in chronic patient care from the International Health Sciences School.²⁵

Spain has clearly supported the development of nursing specialities over and above the roles of APNs in the country or the different university courses. Since 1987 the obtainment of specialist nursing has been regulated (mental health, paediatrics, geriatrics, obstetrics and gynaecology, family and community, employment health and surgical-medical nursing),²⁶ resulting in training in specific areas imparted in accredited and multiprofessional teaching units which guarantee interprofessional collaboration and education. These specialities are offered by

the National Healthcare System (save for the speciality of medical-surgical nursing which does not yet have an official programme for training in this speciality) and an exclusive dedication to training full time with a working contract for 2 years is guaranteed.²⁷ The specialities are equivalent to the second university cycle, corresponding to a master's degree level, with direct access to doctorate level²⁸ and uphold APN profile characteristics which is why several sectors have wished to equate them with APN specialties.²⁹ However, in reality there is no existing consensus around this assimilation of the APN to specialised nursing practice.³⁰

It is however obvious that in the Spanish context there is a debate regarding the APN, the different figures involved and the training required for this new nurse profile.^{15,30,31} Among the possible solutions to the controversial situation there have been suggestions to establish mixed models integrating the APN into specialities whilst maintaining areas of specific competence but linked to official academic training at a minimum level of a master's degree.³⁰ To sum up, there is a need for national policies and strategies to govern the professional regulation of the APN, together with a framework for the professional practice of this new figure who has been proven to improve care standards.^{15,30,31}

Advanced practice nurses training in Europe

There is extensive variation within the European context between countries with regard to the introduction of the APN in healthcare systems, and also the training linked to advanced practice roles.

In countries like Germany, Denmark or Belgium no recognised APNs exist as such.^{32,33} However, in Finland or Sweden, different roles for APNs have been developed in clinical practice but there is no regulation of the situation.³²⁻³⁵ In the case of Finland, although no specific training requisites have been established, the professionals who carry out APN jobs have post-graduate training, including post-graduate diplomas of between 30–60 ECTS or university master's degrees (60–90 ECTS). During the last decade, different universities have driven the creation of advanced practice master programmes.^{33,35} Similarly APNs in Sweden carry out a wide range of specialist nursing, CNS and other advanced roles. For all of them the recommended training level is a master's degree, but as there is no specific existing legal regulations, much variety of academic training continues.³⁶

In Switzerland, the development of the APN is still in its initial stages where there is no regulation of official recognition of these figures. However, the whole country is working for the expansion of the nursing profession and its advanced practice — specifically the role of the CNS — with the introduction of innovative roles and educational programmes to respond to these new demands. The available training for APNs is at master's degree level, but no standards have been implemented on the curriculum of these qualifications.³⁷

In Italy and France the figure of the specialist nurse exists and is regulated, requiring certification at specific post-graduate level.³⁴ In France, up until a few years ago this qualification was not academic, it has only been recently that some education centres have begun to develop advanced practice master degree programmes aimed at extending the introduction of this type of role.³³ In Norway

and Holland there is a specific law in force requiring APNs to have training at master degree level and there is a broad offer of master programmes in advanced practice in their university system.^{32,34}

In the case of Ireland, the first APN positions were created in the nineties, and regulation exists in this regard.³³ The main APNs in the Irish health system are the CNS and NP. To be a CNS requires level 8 in their professional qualification system, which is equivalent to a post-graduate diploma. An NP is required to have a master degree level training.³⁸ At present several universities of the country offer master degree programmes specifically focused on advanced practice skills.

The United Kingdom also deserves special mention as a country with a long history of advanced practice nursing professionals where the first APN positions were created in the 1970s. In the last 2 decades their number has increased exponentially leading to a wide range of APN figures.³³ However, there is no specific legal regulation.³² Access requirements vary from one figure to another and there is no standardised regulation in this regard.³³ In general, a high level of clinical experience is required and the obtainment of a certain level within the professional qualification system, but the recommendation is to have a master's degree.^{33,39,40} The nursing council of the United Kingdom produced a document containing the standards regarding competences and advanced practice nursing in its difference specialities.⁴⁰

Advanced practice nurses training outside Europe

The highest training level of APNs internationally is that of the U.S.A. but some specific experiences in other countries have developed these figures along with regulating standards and their corresponding programmes.

In Australia and New Zealand there is both the figure of the CNS, and the NP. In the case of Access to the NP role, in both countries it is required to have a university master's degree. However, for the CNS and other advanced roles, there are other diplomas and demands vary between the different health organisations proposing them.^{3,7}

In Asia, different APN figures have evolved in countries such as China (Hong Kong), Thailand, South Korea and Japan. In Hong Kong the existing APN figures, among which is the NP, are required to have a master degree level qualification to practice, and possess some clinical experience.⁴¹ The master level and 2 years of clinical experience are also required in Thailand to practice the role of the primary care NP.⁴² In the case of the general, neonatal or ophthalmology NP a 4-month training is required, offered by the Nursing Council of Thailand, and between one and two years of clinical experience in these areas.⁴² In Japan, for practice as a CNS it is necessary to obtain a certificate from the Nursing Council of the country, once the corresponding university training has been obtained.⁴³ In South Korea, it is the Ministry that awards the licence to practice as an APN, and for this 3 years of experience is required in the corresponding area (within the last 10 years) and to be taking a university training programme.⁴⁴

Several countries in Africa have also made efforts to put APN profiles into practice, essentially as a solution to

the problems caused by the lack of healthcare resources these countries suffer from in general. In Botswana there is an NP family programme, driven by collaboration with the U.S.A. Initially, the programme offers a one year training programme, imparted by American nurses and to practice an NP.⁴⁵ is currently required to have 18 months of training. In Swaziland an NP programme has also been introduced but does not currently function consistently.¹³

In Latin America, APNs have been faced with difficulties essentially due to the lack of qualified teachers to offer this training in universities. A study conducted in 2016 reported that Brazil, Argentina, Chile and Colombia were the best prepared countries to offer university training for primary care APNs.⁸ In Mexico, several universities have recently introduced master level programmes which train different APN roles.

In the U.S.A. the situation is fairly homogenous. In Canada, training of CNS and NP is the responsibility of the universities, through 2-year master's programmes, based on the acquisition of competences and innovative methodologies.⁴⁶ However, the actual "Canadian model of advanced practice" highlights the fact that the mere fact of possessing the APN university qualification is not synonymous with appropriately carrying out the development of this role, since it is the combination of training and clinical experience which provides the necessary skills for APN practice.⁴⁷

In the U.S.A. the master degree level is also required for CNS and NP roles. However, the great innovation offered by this country is the appearance of the Doctorate of Nursing Practice⁴⁸ programme for APN training. This programme focuses on the application of knowledge in nursing practice contrary to the traditional doctorate, which focuses on the generation of knowledge, arising from the need for APN training, beyond the existing master's programmes.⁴⁹ The DIP trains APNs in scientific foundations for practice, organisational leadership, evidence-based practice, new technologies, health politics, interprofessional collaboration, prevention and health of the population and advanced practice in nursing.⁴⁹

Conclusion

Worldwide, there is a great variety of terms and roles for the APN and this variability is characteristic of the training requirements for access to these roles. However, in cases where further training is required for APN practice it mainly consists of a master's degree qualification. The ICN refers to this level of training as the most appropriate for APNs and it is the level of choice in countries where these roles have existed for a long time, such as the U.S.A. or Canada.

University training is perhaps considered to be the most appropriate for the acquisition of non-clinical competences increasingly demanded and appreciated for adequate development of APN roles in practice.

The setting up of master degree programmes for APN training is a challenge for universities. It requires dealing with the wide range of existing roles and the shifting demands of the health system together with possessing a teaching staff highly qualified in advanced practice and the

appropriate clinical practice vacancies for training these nurses.

To resolve these problems, different international experiences are highlighting the importance of establishing new alliances between the academic and medical worlds. These experiences target synergies between universities and trigger innovative models of association between universities and health organisations. Considering the relevance of specialised nursing training, in Spain these associations could perhaps be a field of future study.

Conflict of interests

The authors have no conflict of interests to declare.

References

- Barton T. What does the future hold for advanced nursing? *Nurs Times*. 2012;108:19–21.
- Cukr P. Viva la difference! The nation needs the CNS and NP as separate roles. *Online J Issues Nurs*. 1996;1. Available from: www.nursingworld.com [Internet; accessed 13.02.18; 30.06.18].
- Gardner G, Duffield C, Doubrovsky A, Adams M. Identifying advanced practice: a national survey of a nursing workforce. *Int J Nurs Stud*. 2016;55:60–70.
- Pulcini J, Jelic M, Gul R, Loke AY. An international survey on advanced practice nursing education, practice, and regulation. *J Nurs Scholarsh*. 2010;42:31–9.
- Bryant-Lukosius D, Dicenso A, Browne G, Pinelli J. Advanced practice nursing roles: development, implementation and evaluation. *Can Inst Heal Res J Adv Nurs*. 2004;48:519–29.
- International Council of Nursing. International survey of nurse practitioner/advanced practice nursing roles; 2001. Available from: <https://international.aanp.org/> [Internet; accessed 21.01.18].
- Wilkinson J, Carryer J, Budge C, Wilkinson J. Impact of postgraduate education on advanced practice nurse activity – a national survey. *Int Nurs Rev*. 2018;65:417–24.
- Zug KE, Cassiani SHDB, Pulcini J, Garcia AB, Aguirre-Boza F, Park J. Advanced practice nursing in Latin America and the Caribbean: regulation, education and practice. *Rev Lat Am Enferm*. 2016;8:e2807.
- Fitzgerald C, Kantrowitz-Gordon I, Katz J, Hirsch A. Advanced practice nursing education: challenges and strategies. *Nurs Res Pract*. 2012;2012, 854918.
- LeFlore JL, Thomas PE. Educational changes to support advanced practice nursing education. *J Perinat Neonatal Nurs*. 2016;30:187–90.
- Harbman P, Bryant-Lukosius D, Martin-Misener R, Carter N, Covell CL, Donald F, et al. Partners in research: building academic-practice partnerships to educate and mentor advanced practice nurses. *J Eval Clin Pract*. 2017;23:382–90.
- Hamric AB, Hanson CM, Tracy MF, O'Grady E. *Advanced practice nursing*. 5th ed. Philadelphia: W.B. Saunders; 2014.
- Sheer B, Kam F, Wong Y. The development of advanced nursing practice globally. *J Nurs Scholarsh*. 2008;40:204–11.
- Sevilla-Guerra S, Zabalegui A. Instrumentos de análisis para el desempeño de la Enfermera de Práctica Avanzada. *Enferm Clin*. 2017.
- Sánchez-Martín CI. Cronicidad y complejidad: nuevos roles en enfermería, enfermeras de práctica avanzada y paciente crónico. *Enferm Clin*. 2014;24:79–89.
- Fabrellas N, Vidal A, Amat G, Lejardi Y, del Puig Deulofeu M, Buendia C. Nurse management of "same day" consultation for patients with minor illnesses: results of an extended programme in primary care in Catalonia. *J Adv Nurs*. 2011;67:1811–6.
- Morales-Asencio JM, Gonzalo-Jiménez E, Martín-Santos FJ, Morilla-Herrera JC, Celdrán-Más M, Carrasco AM, et al. Effectiveness of a nurse-led case management home care model in Primary Health Care. A quasi-experimental, controlled, multi-centre study. *BMC Health Serv Res*. 2008;8:1–13.
- Osakidetza. Proyecto estratégico 8: competencias avanzadas de enfermería; 2012, Álava.
- Agencia de Calidad Sanitaria de Andalucía. Manual para la acreditación de competencias profesionales. Enfermero/a de práctica avanzada en cuidados a personas con heridas crónicas complejas; 2017. Sevilla.
- Agencia de Calidad Sanitaria de Andalucía. Manual para la acreditación de competencias profesionales. Enfermero/a de práctica avanzada en cuidados a personas con ostomías; 2017. Sevilla.
- Departamento de Salud. Estrategia Navarra de atención integrada a pacientes crónicos y pluripatológicos; 2005. Pamplona.
- Universidad de Cádiz. Máster Universitario en Investigación Enfermera y Práctica Profesional Avanzada. Universidad de Cádiz. Available from: <https://posgrado.uca.es/master/investigacionenfermera?curso=2017/18> [Internet; accessed 10.04.18].
- Boletín Oficial del Estado. Resolución de 28 de julio de 2017, de la Universidad Europea de Madrid, por la que se publica el plan de estudios de Máster en Enfermería de Práctica Avanzada para el Cuidado del Paciente Crónico Complejo. Boletín Oficial del Estado, n° 200, de 21 de agosto de 2017, 85157.
- Universidad de Navarra. Máster en Práctica Avanzada y Gestión de Enfermería. Universidad de Navarra. Available from: <http://www.unav.edu/web/master-en-practica-avanzada-y-gestion-en-enfermeria> [Internet; accessed 15.04.18].
- Escuela Internacional de Ciencias de la Salud. Escuela Internacional de Ciencias de la Salud. Available from: <https://www.esuelacienciassalud.com/curso/enfermera-practica-avanzada-la-atencion-al-paciente-cronico/> [Internet; accessed 10.04.18].
- BOE. Real Decreto 992/1987 de 3 de julio, por el que se regula la obtención del título de Enfermero Especialista. Boletín Oficial del Estado, n.º 183, de 1 de agosto de 1987, 23642-4.
- Boletín Oficial del Estado. Real Decreto 450/2005, de 22 de abril, de especialidades de Enfermería; 2005. p. 1540–86.
- Ministerio de Educación Cultura y Deporte G de E. Real Decreto 99/2011, de 28 de enero, por el que se regulan las enseñanzas oficiales de doctorado. Texto consolidado. 2016;(2003): 1–17.
- Giménez-Maroto AM. La enfermería y la práctica avanzada: su desarrollo en España. Madrid: Universidad Complutense de Madrid; 2013.
- Morales Asencio JM. Barreras para la implementación de modelos de práctica avanzada en España. *Metas Enferm*. 2012;15:26–32.
- Del Barrio-Linares M. Competencias y perfil profesional de la enfermera de práctica avanzada. *Enferm Intensiva*. 2014;25:52–7.
- Carney M. Regulation of advanced nurse practice: its existence and regulatory dimensions from an international perspective. *J Nurs Manag*. 2016;24:105–14.
- Delamaire M, Lafortune G. Nurses in advanced role: a description and evaluation of experiences in 12 developed countries. *OECD Health Working Papers*, No. 54. Paris: OECD Publishing; 2010 <https://doi.org/10.1787/5kmbrcfms5g7-en>
- Heale R, Rieck Buckley C. An international perspective of advanced practice nursing regulation. *Int Nurs Rev*. 2015;62:421–9.

35. Jokiniemi K, Haatainen K, Meretoja R, Pietilä A-M. The future of the clinical nurse specialist role in Finland. *J Nurs Scholarsh*. 2015;47:78–86.
36. Bergström P, Lindh V. Developing the role of Swedish advanced practice nurse (APN) through a blended learning master's program: consequences of knowledge organisation. *Nurse Educ Pract*. 2018;28:196–201.
37. Bryant-Lukosius D, Spichiger E, Martin J, Stoll H, Kellerhals SD, Fliedner M, et al. Framework for evaluating the impact of advanced practice nursing roles. *J Nurs Scholarsh*. 2016;48:201–9.
38. National Council for the Professional Development of Nursing and Midwifery. Framework for the establishment of clinical nurse/midwife specialist posts: intermediate pathway. 4th ed. Dublin: National Council for the Professional Development of Nursing and Midwifery; 2008. Available from: <http://hdl.handle.net/10147/565741> [Internet; accessed 30.06.18].
39. Department of Health – CNO Directorate – PLT. Advanced level nursing: a position statement. Leeds: Department of Health; 2010. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/215935/dh_121738.pdf [Internet; accessed 30.06.18].
40. Nursing and Midwifery Council. Standards for specialist education and practice. London: Nursing and Midwifery Council; 2001. Available from: https://www.nmc.org.uk/globalassets/sitedocuments/standards/nmc-standards-for-specialist-education-and-practice.pdf?t_id=1B2M2Y8AsgTpgAmY7PhCfg%3D%3D&t_q=%22advanced+practice%22&t_tags=language%3Aen%2Csiteid%3Ad6891695-0234-463b-bf74-1bfb02644b38&t_ip [Internet; accessed 30.06.18].
41. Kruth T. Advanced practice nursing in Hong Kong. *Int Adv Pract Nurs*. 2013. Available from: <https://internationalapn.org/2013/10/28/hong-kong/> [Internet; accessed 05.02.18].
42. Hanucharunkul S. Nurse practitioner practice in Thailand. *Contemp Nurse*. 2007;26:83–93.
43. Maru M, Inoue T, Sasaki Y. APN in Japan. In: ICN 2007 conference INP APN network session. 2007.
44. Kang Y. Development of advanced practice nurses in South Korea. *Appl Nurs Res*. 2005;18:226–7.
45. Seitio O. The family nurse practitioner in Botswana: issues and challenges. In: 8th international nurse practitioner conference. 2000.
46. Canadian Nurses Association. Position statement: Clinical Nurse Specialist [Position statement]. Ottawa, ON: CNA; 2009. Available from: https://cna-aicc.ca/~media/cna/page-content/pdf-en/clinical-nurse-specialist-position-statement_2016.pdf?la=en [accessed 30.06.18].
47. Canadian Nurses Association. Advanced nursing practice; 2008. Ottawa, ON. Available from: www.cna-aicc.ca [Internet; accessed 25.04.18].
48. Papham P, Austin-Ketch T. Doctor of nursing practice education: impact on advanced nursing practice. *Semin Oncol Nurs*. 2015;31:273–81.
49. American Association of Colleges of Nursing. DNP essentials. Washington, DC: AACN; 2006. Available from: www.aacn.nche.edu [Internet; accessed 30.06.18].