

the impact of advanced practice nursing in healthcare: recipe for developing countries

The increasing demand for healthcare services on all levels is placing great strain on healthcare systems throughout the world. Escalating demands combined with a shortage of General Practitioners (GPs) have forced politicians in many countries to reevaluate the distribution of work tasks and areas of responsibility between different healthcare personnel.^{1,2} Registered nurses' (RN) roles and scope of practice have been expanded in many countries and the quality and cost-effectiveness of healthcare systems have improved.^{2,3} For example, a private nurse practitioner-run clinic opened in Brisbane, Australia⁴ in September 2011 with the aim to shorten patient waiting times for basic healthcare needs; in most parts of the world RNs now comprise the largest group of healthcare providers.

How should advanced practice nursing be defined?

Advanced practice nursing (APN) is an umbrella term for various nursing types and includes nurses acting in diverse advanced roles.⁵ The conception and education of nurse practitioners (NPs), or advanced practice nurses (APNs) as they are later known, emanates from America in 1960s. APN today encompasses clinical nurse specialists, NPs, midwives and nurse anesthetists.⁶ During the past two decades, APNs have become a well-established professional group in the USA, Australia, Canada, New Zealand, Great Britain and Holland. In the Nordic countries, the first APNs graduated in Sweden in 2005 and in Finland in 2006.

According to the International Council of Nursing,⁷ APNs are defined as: "A registered nurse who has acquired the expert knowledge base, complex decision-making skills and clinical competencies for expanded practice, the characteristics of which are shaped by the context and/or country in which s/he is credentialed to practice." APNs possess the competency to assess, diagnose and treat normal and/or acute health problems and situations and to provide follow-up care and treatment for chronic conditions. Furthermore, APNs are capable of assessing a patient's health situation and history (*anamnesis*), evaluating and identifying a patient's need for care,

ordering diagnostic or laboratory tests and prescribing medications (rights vary from country to country) as well as referring patients for further care and/or admitting or discharging patients from hospital. In essence APNs offer holistic care.^{2,6} The eight core competencies of the Nordic APN model are direct clinical practice, ethical decision-making, coaching and guidance, consultation, co-operation, case management, research and development and leadership.⁸

The aim of this paper is to present a brief review of international research pertaining to the impact of APN on healthcare by describing the most central APN outcomes which could be helpful for developing countries with scarce resources.

APN outcomes

In order to measure outcome, the identification and selection of those indicators that should be monitored must first occur. Jennings *et al*⁹ recommended the categorization of APN research into care-related, patient-related and performance-related outcomes. Central *care-related outcomes* include, for example, lab values, length of patient hospitalization, hospital readmission rates, costs, prescribing decisions, timeliness of consultations, mortality and morbidity rates and clinical symptoms.¹⁰ Blue *et al*¹¹ found that patients receiving APN care had fewer readmissions for heart failure and spent fewer days in hospital. According to a systematic review of NPs in primary care (11 RCT and 23 observational studies), NPs increased patient satisfaction, increased the length of consultation and performed more investigations than GPs and no differences were found in health outcomes or prescriptions.¹² The findings seen in initial evaluations of APN care in Sweden and Finland corresponded with international research: APNs contribute to increased access to care, liberate GP time and offer care on the proper level.^{13,14}

Patient-related outcomes include those advanced APN interventions that affect patient perceptions, preferences or knowledge. In one study of emergency care, patients reported higher levels of satisfaction with APN care compared to GP care.¹⁵ However, no differences were found regarding symptoms, recovery

times or unplanned follow-up between these two groups. In a meta-analysis of 75 studies, clear evidence was seen that patient outcomes are similar for NPs and GPs in relation to functional status, blood glucose, blood pressure, emergency department visits, hospitalization and mortality.¹⁶ In a longitudinal study assessing the impact of palliative care, APN care led to significant improvements in quality of life (emotional and cognitive functioning) and a decrease in anxiety scores.¹⁷ In a randomized controlled trial of clinical nurse specialist (CNS) managed care for high-risk childbearing women, patients had fewer re-hospitalizations, were less likely to give birth to infants with low birth weight and care cost levels were lower.¹⁸

Performance-related outcomes measure the effect of APN interventions on the quality of care, interpersonal skills, technical quality, completeness of documentation and clinical examination comprehensiveness. A Cochrane review of the substitution of GPs with nurses in primary care (4253 articles were screened, 25 included) concluded that appropriately trained nurses are able to provide equally high quality care and good health outcomes for patients.¹⁹ APN clinical outcomes, care processes, use of services and cost-effectiveness have been found to be equivalent or superior to GP care.¹⁶

Conclusions

Well-educated APNs can meet actual and future care needs, both in hospital and primary care settings. In primary care, walk-in centers provide an innovative solution by which to improve access to healthcare.²⁰ It has been demonstrated that APNs' treatment of undiagnosed patients with undifferentiated health problems provides the same results as GPs treatment of such patients.¹² Furthermore, when APNs act as case managers for older people's chronic health problems, unplanned admissions are reduced and compliance to care is improved.²¹ Well-educated APNs who possess master clinical education and extensive work-experience, embrace a holistic and person-centered perspective and develop a trustful relationship with patients constitute the foundation of APN. However, the successful implementation of APN requires political

organizational and managerial support, continuous evaluation and good cooperation between colleagues, especially in regard to APN-GP cooperation.²²⁻²⁵

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