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An evaluation of post-registration neuroscience focused education and neuroscience nurses' perceived educational needs

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SUMMARY

Background: People with complex neurological conditions require co-ordinated care provided by nurses educated in meeting service needs, understanding the pathophysiological processes of disease and the preparation to care for those with complex needs. However, evidence suggests that neuroscience specific education provision is largely unregulated and set outside of a cohesive professional development context. Furthermore, it largely seems to only address the induction phase into working within neurosciences.
Objectives: To evaluate the nature of post-registration neuroscience focused education across Europe and neuroscience nurses' perceived educational needs.
Methods: Post qualifying nurses working in the field of neurosciences were invited to complete a self-reported 29-item on-line questionnaire that contained closed and open-ended questions exploring professional background, clinical and educational experience, educational opportunities available to them and their perspectives on their educational needs.
Results: 154 participants from fourteen countries across Europe completed the survey. 75% (n = 110) of respondents had undertaken neuroscience focused education with the most accessible education opportunities found to be conferences 77% (n = 96) and study days 69% (n = 86). Overall, 52.6% of courses were multidisciplinary in nature, and 47.4% were exclusively nursing. Most identified that their courses were funded by their employer (57%, n = 63) or partly funded by their employer. Results illustrate a significant variance across Europe, highlighting the need for more effective communication between neuroscience nurses across Europe. Implications for future education provision, recruitment/retention, and funding are discussed, resulting in recommendations for the future of neuroscience nursing.
Conclusions: This study, the largest of its kind to survey neuroscience nurses, illustrates the absence of a cohesive career development pathway for neuroscience nurses in Europe. Nurses need quality assured specialist education to deliver high quality appropriate healthcare.

Introduction

Neurological disorders constitute a large and increasing share of the global burden of disease (WHO, 2004), occupying the highest number of conditions identified in the International Classification of Diseases (ICD-10) (WHO, 2015). Furthermore, neurological conditions are the most common cause of serious disabilities and have a major, but often unrecognised, impact on healthcare, representing the prime contributor to morbidity burden in Europe (Wittchen et al., 2011). According to the European Commission (2015) more than 600 disorders afflict the nervous system, supported by data identifying that neurological disorders represent 35% of the burden of all diseases in Europe in 2005 (Andlin-Sobocki et al., 2005). In 2010, this was calculated to cost €798 billion, averaging at €1550 cost per capita (Gustavsson et al., 2011; Olesen et al., 2012). However, accurate prevalence of neurological disorders within Europe is difficult to confirm as a result of the absence of robust recording and reporting systems across all countries (Gustavsson et al., 2011). This renders the scale of the neurological conditions likely to be greater than anticipated.

Isolating some neurological conditions, stroke is the most important cause of mortality, morbidity and long-term disability in Europe (The European Stroke Initiative Executive Committee and EUSI Writing Committee, 2003), resulting in 1.1 million deaths annually (Vasiliadis, 2013). Acute stroke is the one of the leading causes of morbidity and mortality worldwide (Vasiliadis, 2013). After ischaemic heart disease, stroke ranks as second most common cause of death globally (WHO, 2012). Considering the scale of stroke's association with morbidity and long-term disability, the anticipated increased prevalence of this condition within certain European countries over the next few decades will heighten the need for expert nursing care, particularly those with the

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lowest economic standard of living (Redon et al., 2011). This is within the context of a growth in the elderly population and technological advances increasing the number of people living longer with complex conditions, which will lead to an increase in the health burden of neurological diseases and a consequential increase in economic burden.

Within the northern hemisphere, the prevalence of neurodegenerative conditions also merits consideration. Stovner et al. (2014), reporting on data from the Global Burden of Disease 2010 Study (GBD 2010), advocate that the economic burden of neurological disorders could be offset through implementation of evidence-informed, effective and efficient interventions that treat and prevent their occurrence. Education plays a central role in such a strategy. With the GBD 2010 explicitly demonstrating the extensive consequences of neurological disorders in Europe, the context of an ageing society will see a rise in neurodegenerative disorders, notably Alzheimer's type dementias and Parkinson's disease (PD). Stovner et al. (2014) advocate this will necessitate a greater focus on education to deal with the associated needs of people affected. This is supported by Gustavsson et al. (2011) who, in reviewing the extensive cost and impact of neurological disorders in Europe, strongly advocate the need education to be quantitatively and qualitatively improved to address this global concern.

As the developed world's population ages the burden of neurodegenerative diseases will increase substantially in the coming years. This fact and the increasing number of people living with neurological condition and their associated complications indicates a continuing need for nurses to develop knowledge and understanding of the conditions and their care management (Gustavsson et al., 2011; Olesen et al., 2012). Therefore the education and training needs of neuroscience nurses are of particular importance, both in terms of pre-registration and post-registration education and training.

Background Literature

In May 2013, the European Association of Neuroscience Nurses (EANN) part-funded this project based on a research proposal submitted to the board (Cook and Braine, 2013). This originated from identification of other healthcare professions taking forward innovative strategies within Europe to address educational needs in a cohesive and structured approach. This is against a background of recommendations whereby strategic principles have been developed for neuroscientists (Brann and Sloop, 2006) (See Fig. 1), and where organisations such as The Federation of European Neuroscience Societies (FENS) and the International Brain Research Organization (IBRO) identify principles to underpin education for the Programme for European Neuroscience Schools (PENS) (Aguayo et al., 2005). These highlight the need to increase the quality of education across Europe, but highlight how this needs to be internationalised in a manner that permits local priorities to be central. The principles further advocate the need for inter-professional learning and the creation of a nexus of teachers and learners across countries

Against this background, a need for an educational strategy for Neuroscience Nursing within Europe was identified. This was based upon a needs analysis through engaging those at the centre of the learning i.e. neuroscience nurses (Kaufman, 2003; Burke et al., 2012). Central to this needs analysis was clarifying current available education and how it is resourced (Rochmawati and Wiechula, 2010).

The literature identifies that there is currently no such strategy for post-registration education within Europe. Generally, specialist and advanced training in neurological nursing is unavailable (WHO, 2004). Whilst European Directives exist that influence pre-registration education within Europe, these are not extended into post-registration education, despite nursing engaging the principles and values of life-wide learning. Additionally, practice settings have become increasingly specialised,

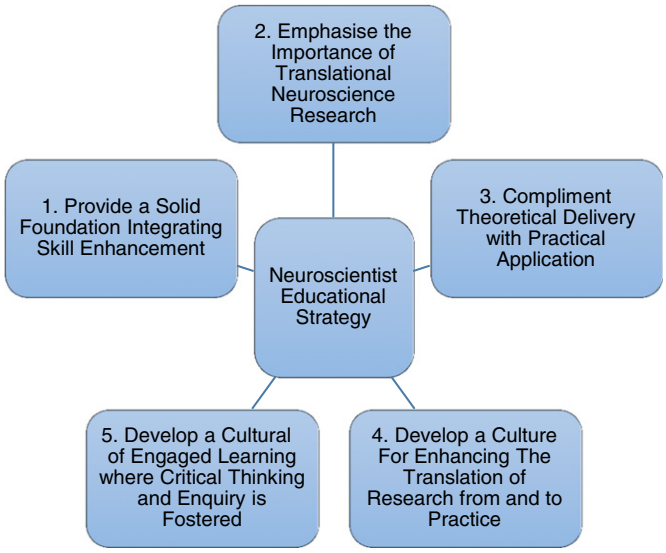

Fig. 1. Neuroscience curricular principles.

requiring focused education to maximise the quality of care. Studies have identified that pre-registration education does not prepare nurse for working in specialised areas, and that further education and development is needed (Long et al., 2002; Ellenbecker, 2010). This is confirmed to be the case in the field of neuroscience nursing by Baker (2012), who emphasised the need for such education to be creatively constructed in a manner that facilitates a range of learning styles.

The only identified study that attempted to undertake a needs analysis for neuroscience nursing within Europe was that by Forde-Johnson (2007). This survey designed study was completed by 8 out of 15 board members of the EANN. Whilst the results highlighted the fragmented and varied approach to post-registration education for neuroscience nurses within Europe, the results could not be considered as representative of current educational and resourcing within Europe. This study led to no cohesive strategy.

It is therefore clear that the first step forward is to conduct a learning needs analysis (Burke et al., 2012). This is supported by adult learning theory, where the importance of engaging learners in determining their needs is seen as fundamental to the success of effective learning (Kaufman, 2003). Furthermore Rochmawati and Wiechula (2010) advocate the need for further research on a large scale to determine the variety of education being provided, and how it is resourced as part of developing such a strategy. The second step is to develop a cohesive educational strategy that addresses the contemporary European perspectives with due regard to adult learning principles.

Aims

The aim of this study was to determine the nature of neuroscience focused education received by neuroscience nurses in Europe and their perceived educational needs. The primary outcomes measures were:

- Undertake a review of the literature relating to continual professional development in Europe,
- To determine what, if any, neuroscience focused education is received by neuroscience nurses,
- To determine how neuroscience focused education is funded,
- To determine neuroscience nurses' perceived continuing professional development needs,