

Student Academic Gains In Nursing Education: An Evaluation From Pharmacological and Ethical Point of View

Hemşirelik Eğitiminde Öğrencinin Akademik Edinimleri: Farmakolojik ve Etik Bakış Açısından Bir Değerlendirme

Evren Şavlı¹  Nülüfer Erbil¹ 

¹ Ordu University, Faculty of Medicine, Department of Medical Pharmacology, Ordu, TURKEY

²Ordu University Faculty of Health Sciences, Department of Gynecology and Obstetrics Nursing, Ordu, TURKEY

Geliş tarihi/ Date of receipt: 05/04/2019

Kabul tarihi/ Date of acceptance: 19/04/2019

© Ordu University Faculty of Health Sciences, Department of Nursing, Turkey, **Published online** 25/04/2019

ÖZET

Advers ilaç reaksiyonlarının raporlanması hemşirelerin sorumluluklarındandır. Diğer ülkelere kıyaslandığında, ülkemizdeki advers ilaç reaksiyonlarını raporlama oranları hala ortalamanın altındadır. Bu derlemede amaç, ders programındaki farmakovijilansın ve materyovijilansın önemi hakkında farkındalık oluşturmak ve yükseköğretimdeki hemşirelik akademisyenlerinin rolünün altını çizmektir. Ayrıca advers etki ve tıbbi cihaza bağlı olay raporlanmasını, kişisel bakım ürünleri ve farmasötiklerin güvenli atılımını artırmak ve “second victim” fenomeni hakkında farkındalık yaratmaktır. Bu makalede, hemşirelik eğitimcilerinin rolleri ve sorumlulukları, ders programına yönelik öneriler farmakoloji eğitiminin temellerine dayanmaktadır.

Anahtar kelimeler: Farmakovijilans, materyovijilans, second victim, hemşirelik.

ABSTRACT

Adverse drug reaction (ADR) reporting is a responsibility of nurses, ADR reporting in Turkey is still below the average when compared to other countries. The aim of this review is to raise an awareness of importance of pharmacovigilance materiovigilance in curriculum and to underlie the role of nursing academics in higher education. In addition, it is aimed to promote nurses effective ADR and medical device reaction reporting, and also safe disposal of pharmaceuticals and personal care products and raise awareness of second victim phenomenon. In this article the roles and responsibilities of nursing educational practitioners and curricular recommendations are based on the principles of pharmacology education.

Key words: Pharmacovigilance, materiovigilance, second victim, nursing.

ORCID IDs of the authors: E.Ş.0000-0001-5052-5436; N.E. 0000-0003-3586-6237

Sorumlu yazar/Corresponding author:

Evren ŞAVLI, Asst. Prof. Dr.

Ordu University, Faculty of Medicine, Department of Medical Pharmacology

Cumhuriyet Campus, 52200, Ordu, TURKEY

e-mail: evrensavli@odu.edu.tr

Atıf/Citation: Şavlı E, Erbil N. (2019). Student academic gains in nursing education: An evaluation from pharmacological and ethical point of view. Ordu University Journal of Nursing Studies, 2(1), 65-69.

Introduction

Advances in technology, guided by the fast collection of relevant knowledge force institutions in higher education to seek curricular interventions to improve their graduates readiness for healthcare delivery systems. In recent decades, competency-based curriculum has become a core model for adapting nurses for current practice needs.

The core element of curriculum is to determine the competencies that is expected to be developed by the graduates during their education life. Competent graduates are able to conduct and utilize research, manage healthcare services introducing innovations into their working environment and influence policy in the era of evidence-based practice (Frenk et al., 2010; WHO 2009, 2010). Nursing academics should educate the upcoming nurses whom will be the vital members of healthcare providers team, in a way that they can achieve their duties with conviction and autonomously, based on scientific and practical knowledge and skills and exhibiting professional attitudes at the same time.

As of 2017, number of healthcare providers in Turkey is 920.939, among these; number of doctors is 149.997 and number of nurses and midwives are, 166.142 and 55.417 respectively (T.C. Sağlık Bakanlığı İstatistik Yıllığı, 2017).

In Turkey, nursing education in higher education has made appreciable advance since 1955. University of the Aegean was the first nursing education in higher education in 1955. By 2015, “Nursing Undergraduate Programs” were being conducted in 34 foundation and 86 state university, including School of Health, Faculty of Nursing, School of Nursing, Faculty of Health Sciences (OSYS Kılavuz, 2015). Undergraduate programmes in nursing require at least four years to complete (4600 hours of theoretical and practical education).

In accordance with the accelerated developments in science and technology many schools of nursing are involved in curriculum revisions in response to satisfy future demands for healthcare delivery system. Nursing Education administrators in higher education should seek the appropriate curricular revisions

that will yield the greatest improvements in undergraduate nursing students lifelong academic performance.

In 2014 in line with the “criteria set forth by the European Union for Nursing Education and the Bologna Process”, a “National Nursing Core Training Program” (NNCTP 2014) framework was constructed for the purpose of defining “the minimum standards of nursing education programmes and accomplishing nationwide standardization for the undergraduate nursing programmes” (NNCTP, 2014).

Pharmacovigilance was defined by the World Health Organization (WHO) as “the science and activities relating to the detection, assessment, understanding, and prevention of adverse effects or any other drug-related problem”. The WHO defined adverse drug reaction (ADR) as “a response to a drug which is noxious and unintended, and which occurs at doses normally used in man for the prophylaxis, diagnosis, or therapy of disease, or for the modification of physiological function” (WHO, 2002).

Pharmacovigilance, the monitoring of drug safety after marketing approval, highly builded upon on the adequate reporting of adverse drug reactions (ADRs). Studies indicate that ADRs account for approximately 5% of all acute hospitalizations (Pirmohamed et al., 2004; Leendertse et al., 2008; Angamo et al., 2016). Healthcare professionals responsible for ADR reporting are described as a physician, pharmacist, dental practitioner, nurse or midwife in the Regulation on The Safety of Medicinal Products in Turkey (TMMDA 2014a; TMMDA, 2014b). Underreporting is a global problem creating health, and ethical burden, and Turkey’s reporting rates are low compared with that in developed countries (Aydınkarahaliloğlu 2018). There is therefore a need to raise healthcare professionals’ (not only practitioners, pharmacist, dentist, nurses, midwives but also veterinary doctors and other healthcare professionals) awareness of pharmacovigilance, afterlife of drugs, footprints of health industry in environment and encourage them to adopt proper ADR reporting

and safe disposal practices for pharmaceuticals and personal care products (PPCPs).

TMMDA is the sole national authority responsible for developing and implementing regulatory, supervisory, and steering policies for medicines, medical devices and cosmetics. Three main EU Directives “90/385/EEC”, “93/42/EEC”, “98/79/EEC” relating to medical devices are harmonized to Turkish Legislative Acts by the Agency. Inspections related to medical device vigilance system and market surveillance are conducted by the Agency. Medical device incident reporting is also in the responsibility of medical device users. (TMMDA 2002a; TMMDA 2002b; TMMDA 2003). Nurses should also be educated about medical device vigilance system in the working field of materiovigilance.

Adverse drug reaction and medical device incident reporting is a critical element of collecting post-marketing safety data, these practices are also regulated by national pharmacovigilance and medical device regulations. We determined that activity of ADR and MDR and materiovigilance and pharmacovigilance are not mentioned in the ‘pharmacology section’ of NNCTP-2014 (NNCTP 2014).

We propose to add “pharmacovigilance and materiovigilance” to pharmacology section under theoretical content in Table 4. Subjects related to basic and behavioural sciences, content, aims/learning outcomes in NNCTP 2014. We also propose to add ‘ADR and MDR reporting’ and ‘Safe disposal of PPCPs’ to the aims/learning outcomes section in NNCTP 2014.

Medical errors are the third leading cause of death in United States. They are notable source of mortality and morbidity (Makary et al., 2016). Expectation of patients from their clinicians is perfection. Many of them think their clinicians as faultless clinicians. Physicians similarly prone to expect the same illusion of perfection from their ego. This deceptive image of perfection is so fragile and may clash with the realities of being human and working in a complicated health care delivery system. In 2000 “To Err is Human”

book revealed that, “there are not bad people working in health care, rather good people working in bad systems that need to be made safer” (Kohn et al., 2000). The term, “second victim” is coined by Albert Wu in 2000. The definition was further enlightened with the description of being “second victim” nine years later: “A health care provider involved in an unanticipated adverse patient event, medical error, and/or a patient related-injury who become victimized in the sense that the provider is traumatized by the event. Frequently second victims feel personally responsible for the unexpected patient outcomes and feel as though they have failed their patient, second guessing their clinical skills and knowledge base” (Scott et al., 2009; Wu 2000). Aside from the “second victim phenomenon”, there are also “first victim” described as patient and family involved, and “the third victim” described as the organization in which the first and second victims’ experiences occurred. Nurses’ experience of medical errors is potentially more challenging than the experience of other health care providers placing them in more tough situations in the aftermath of medical error because of the nurses’ provision of hands-on patient care (Institute of Medicine 2004). Another aim of this article is to rise the awareness of importance of second victim phenomenon for education administrators in higher education and graduates, both of whom can be second victims of medical errors, that will help their preparation for medication administration, medication error, and their personal experience with error making and a second victimhood.

We propose that nursing educators in higher education may discuss the integration of this newly developing area; second victim phenomenon into the national nursing core curriculum (into the Patient Worker Safety and Quality Management section) in the next update meeting.

Training nurses about the “second victim phenomenon” is recommended as well as the methods to manage the effects of this phenomenon, the supportive resources, and legal issues (Institute of Medicine 2004; Edrees

et al., 2016). Studies indicate the need to develop organisational support programmes for these workers. There is a scarce literature about the steps involved in organisational support programmes development (Edrees et al., 2016).

Conclusion

Creating awareness and educational approach culture to error and reassuring contributive institutional interactions may be useful strategies to manage the severity of second victim experiences and to prevent nurses leaving their profession. These can be developed primarily by educating the future nurses.

It is hoped that this review will raise the awareness in nurse managers who are essential members of chosen teams for second victim supporting and training programmes in their institutions to foster a culture in which all employees were resilient and mutually supportive before, during and after stressful event (Edrees et al., 2016).

We hope this article will improve the dialogue and encourage systematic, ethical and formal evaluations about the concept of pharmacovigilance, materiovigilance and second victim in nursing education in particular. The curricular provisions may be developed to close the practice–education gap on the aforementioned concepts in the next update of NNCTP-2014 meeting. It can be discussed how undergraduate nurses are being better prepared to meet today’s complex health care needs and improve the well-being of the society.

We suggest that it is possible to answer these issues by creating good theoretical structure, discussing the integration of theoretical and practical dimension of aforementioned concepts’ education.

Ethics Committee Approval:

The literature used was shown in the references.

Peer-review: Eksternally peer-reviewed.

Author Contributions: Concept: EŞ; Design: EŞ; NE ; Literature review: EŞ; Writing: EŞ, NE; Critical review: EŞ, NE.

Conflict of interest: No conflict of interest was declared by the author.

Financial Disclosure: The authors declared that this study hasn’t received financial support.

What did the study add to the literature?

- Evaluation of NNCTP-2014 from pharmacological perspective.
- Second victim phenomenon in nursing education
- Improving undergraduate nursing education

References

- Angamo MT, Chalmers L, Curtain CM, Bereznicki LRE. (2016) Adverse drug reaction related hospitalisations in developed and developing countries: a review of prevalence and contributing factors. *Drug Safety*, 39(9), 847-57.
- Aydıncarhaliloğlu ND, Aykaç E, Atalan Ö, Demir N, Hayran M (2018) Spontaneous Reporting of Adverse Drug Reactions by Consumers in Comparison with Healthcare Professionals in Turkey from 2014 to 2016. *Pharmaceutical Medicine*, 32, 353-364.
- Council of Higher Education electronic database (2015). Retrieved on 15.06.2015 from http://www.osym.gov.tr/belge/1-1921_3/2012-2013-ogretim-yili-yuksek-ogretim-istatistikleri.html.
- Guides of Student Selection and Placement Center (2015) Retrieved on 15.06.2015 from http://dokuman.osym.gov.tr/pdf_dokuman_2015/YGS/2015_OSYS_KILAVUZ.pdf
- Edrees H, Connors C, Paine L, Norvell M, Taylor H, Wu AW (2016). Implementing the RISE second victim support programme at the Johns Hopkins Hospital: a case study. *BMJ Open*. 30, 6(9):e011708.
- Frenk J, Chen L, Bhutta ZA (2010). Health professionals for a new century: Transforming education to strengthen health systems in an interdependent world. *Lancet*; 376, 1923–1958.
- Kohn L, Corrigan J, Donaldson M. (2000) *To Err is Human: Building a Safer Health System*. National Academy Press.

- Leendertse AJ, Egberts ACG, Stoker LJ, van den Bemt PMLA. (2008). HARM Study group. Frequency of and risk factors for preventable medication related hospital admissions in The Netherlands. *JAMA Internal Medicine*, 168(17), 1890–1896.
- Institute of Medicine (2004). (US) Committee on the Work Environment for Nurses and Patient Safety; Page A, editor. Washington (DC): National Academies Press (US); 2004. Keeping Patients Safe: Transforming the Work Environment of Nurses.
- Makary MA, Daniel M. (2016) Medical error-the third leading cause of death in the US. *BMJ*, 353, i2139.
- National Nursing Core Training Program framework (2014). (NNCTP-2014) (HUÇEP-2014) Retrieved on 14.03.2019 from http://www.hemed.org.tr/index.php?option=com_content&task=view&id=547&Itemid=178
- Pirmohamed M, James S, Meakin S, Green C, Scott AK, Walley T et al. (2004) Adverse drug reactions as cause of admission to hospital: prospective analysis of 18820 patients. *BMJ*, 329(7456), 15–9.
- Scott SD, Hirschinger LE, Cox KR, McCoig M, Brandt J, Hall LW. (2009) The natural history of recovery for the healthcare provider “second victim” after adverse patient events. *BMJ Quality & Safety*, 18(5), 325-330.
- T.C. Sağlık Bakanlığı Sağlık İstatistikleri Yıllığı (2017) s. 217.
- TMMDA (2002a). Relevant Turkish Legislation: Directive on Medical Devices published in Official Journal numbered 24694 and dated 13.03.2002 Retrieved on 12.03.2019 from <http://www.resmigazete.gov.tr/eskiler/2002/03/20020313.htm>
- TMMDA (2002b) Relevant Turkish Legislation : Directive on Active Implantable Medical Devices published in Official Journal numbered 24693 and dated 13.03.2002. Retrieved on 12.03.2019 from <http://www.resmigazete.gov.tr/eskiler/2002/03/20020312.htm>
- TMMDA (2003) Relevant Turkish Legislation: Directive on In Vitro Diagnostic Medical Devices published in Official Journal numbered 25259 and dated 14.10.2003. Retrieved on 14.03.2019 from <http://www.resmigazete.gov.tr/eskiler/2003/10/20031014.htm>
- TMMDA (2014a) Turkish Drug and Medical Device Agency Regulation on safety of drugs. Retrieved on 12.03.2019 from <https://www.titck.gov.tr/ortalAdmin/Uploads/.../TWcsQPio>
- TMMDA (2014b) Turkish Drug and Medical Device Agency (2014) Good Pharmacovigilance Practices. Retrieved on 14.03.2019 from https://www.titck.gov.tr/faaliyetalanlari/ilac/far_makovijilans
- World Health Organization (2009). Global standards for the initial education of professional nurses and midwives. Geneva: WHO, p.8-29.
- World Health Organization (2010). WHO consultation on the transformative scale-up of medical, nursing and midwifery education. Second technical reference group meeting: Nursing and midwifery education experts 15–16 July 2010. Geneva: WHO, p.2-15.
- WHO (2002). The Importance of Pharmacovigilance-Safety Monitoring of Medicinal Products, p. 1-14.
- Wu AW (2000). Medical error: The second victim. The doctor who makes the mistake needs help too. *British Medical Journal*, 320 (7237), 726–727.