ORIGINAL RESEARCH

Rational drug use awareness of the nurses in the Turkish Republic of Northern Cyprus Near East University Hospital

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ABSTRACT

OBJECTIVE: Irrational use of drugs cause a serious economical burden for many countries. Rational drug use RDU requires a teamwork of health providers. Prescribers, pharmacists and nurses have an important role in RDU. In this study, we aimed to evaluate the knowledge and attitude of the nurses about RDU.

METHODS: The present study was conducted to evaluate the knowledge of the 44 nurses (who consented to participate in the study) in Turkish Republic of Northern Cyprus (T.R.N.C.) Near East University Hospital towards rational drug use.

RESULTS: All the nurses were female with an average age of 38 ± 13. Half of them had high school degree, 11.4% associate degree and 38.6 bachelor degree. Average experience in nursing was 16 ± 12 years. Seventy seven percent of the nurses told that they did not know the RUD. The most common problems about order/prescription was claimed to be illegible order/prescription (76.7%), unavailability of the drug in the market/ hospital pharmacy stocks (37.5%), missing instructions (46.2%), dosing error (24.4%), inappropriate pharmaceutical form (8.8%). The nurses stated that they consulted physicians (97.8%) or their colleagues (89.2%) in case of a drug related problem. Also they stated that they generally informed patients about the time of drug administration (when to take the drug- before or after a meal), while they informed patients about drug/ nutrient interactions. Eighty percent told that they were satisfied by the way they practiced their profession and 96% said they would be willing to attend a training course about RDU.

CONCLUSION: Our survey results demonstrated a need for educational program on RDU for nurses.

KEY WORDS: nurse; patient; rational drug use; pharmacotherapy; Cyprus; education; problems

INTRODUCTION

Rational use of medicine requires that "patients receive medications appropriate for their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost for both the patient and their community" (1). The irrational use of drugs is a common medical and economical problem in both developing and civilized countries (2,3).

The latest regulations in Turkey and Turkish Republic of Northern Cyprus (TRNC) are aiming towards a decrease in health expenditures. This approach may have short term benefits, however, implementing rational use of drugs should be the long term target (4).

Achieving rational drug use (RDU) collaboration between health professionals is vital since it requires a multidisciplinary teamwork . Previous studies demonstrate the inadequate knowledge and dispensing habits of health care professionals such as prescribers and pharmacists (5-9). On the other hand, there are only few

studies conducted with the nurses. Therefore, the following study aimed to evaluate the awareness of the nurses working in TRNC Near East University Hospital about rational use of drugs.

METHODS

The study was conducted in November 2010 with 44 out of 127 nurses working in Near East University Hospital.

After the nurses concented to participate in the study, the questionnaire was given to be filled out. The questionnaire consisted of 20 open and structured questions about their sociodemographical characteristics, their knowledge about rational drug use and their dispensing practice. The questionnaire was validated before with 20 nurses.

Statistical Analysis

The frequency analysis was performed using SPSS (Statistical Package for Social Sciences) for Windows 13.0.

RESULTS

All the interviewed nurses were women. Mean age was 38 ± 13. Fifty percent of the nurses were graduates of nursing high school, 11.4% had an associate degree and 38.6% had a bachelor degree. The mean professional experience was 16 ± 12 years. The sociodemographical characteristics of the nurses are given in Table 1.

TABLE 1. The sociodemographical characteristics of the nurses (n=44).

		N (%)
Age (years)	18–25	13 (29.5)
	26–35	6 (13.6)
	36–45	8 (18.2)
	46–55	15 (34.1)
	56+	2 (4.5)
Sex	Female	44 (100)
	Male	-
Experience (years)	0-5	14 (31.8)
	6-10	5 (11.4)
	11-15	2 (4.5)
	16+	23 (52.3)
Educational degree	High school	22 (50)
	Associate	5 (11.4)
	Bachelor	17 (38.6)

TABLE 2. The items nurses claim to check in an order/ prescription.

	(Strongly) agree N(%)	No idea/ Unsure N(%)	(Strongly) disagree N(%)
Patient name	42 (100)	-	-
Patient age	33 (82.5)	1 (2.5)	6 (15)
Diagnosis	39 (95.1)	-	2 (4.9)
Dosage	40 (100)	-	-
Pharmaceutical form	19 (57.6)	3 (6.8)	11 (33.3)
Route of administration	40 (100)	-	-
Duration for use	35 (83.3)	2 (4.8)	5 (11.9)
Possible drug interactions	25 (69.4)	3 (8.3)	8 (22.2)

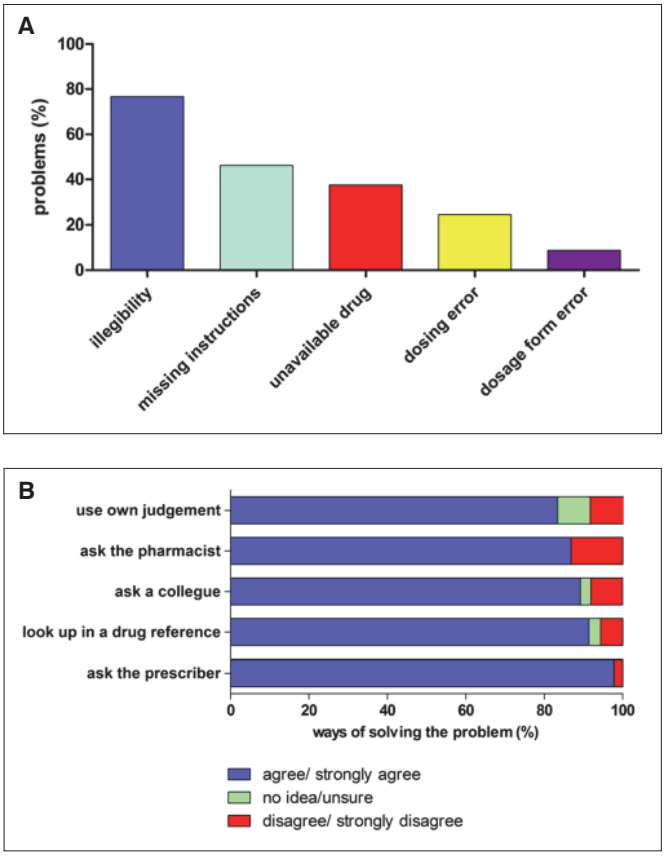

FIGURE 1. (A) The problems nurses face in an order/ prescription; (B) the way they solve these problems.

Seventy seven percent of the nurses had never heard about the RDU concept before.

Items that were checked by nurses in orders/prescriptions are shown in Table 2.

Nurses specified that the most common problem they faced in an order/ prescription was illegible handwriting (76.7%). Other problems were the unavailability of the drug in the market/ hospital pharmacy (37.5%), missing instructions for usage (46.2%), missing/ wrong dosage (24.4%), missing/wrong pharmaceutical dosage form (8.8%) (Figure 1a). For solving these problems, nurses consulted to doctors (97.8%), their colleagues (89.2%) and searched from a source (91.4%) (Figure 1b). The frequency of the sources used were drug/patient information leaflets (97.3%), internet search (90.0%), Vademecum (82.8%), pharmaceutical company brochures (58.6%), pharmacology books (51.8%), Turkish Drug Therapy Guide [Türkiye İlaçla Tedavi Kılavuzu] (28.5%) and RxMedia Pharma Electronic Drug Information Source (%26.7).

Drug information given to patients by nurses are shown in Table 3. Nurses specified that they informed patients mostly about taking the drug before or after a meal, and not much about drug and food interactions. Eighty two percent of the nurses told that they confirmed and clarified patients' understanding.

TABLE 3. The information provided to the patients by nurses about their order/ prescription.

	(Strongly) agree N(%)	No idea/ unsure N(%)	(Strongly) disagree N(%)
Name of the drug	39 (95.1)	-	2 (4.9)
Diagnosis	24 (75.0)	1 (3.1)	7 (21.9)
Dosage	34 (80.9)	2 (4.8)	6 (14.3)
How to use	40 (95.2)	1 (2.4)	1 (2.4)
To be taken before or after a meal	44 (100)	-	-
Duration of use	39 (95.2)	1 (2.4)	1 (2.4)
Storage	44 (100)	-	-
Side effects	39 (92.8)	2 (4.8)	1 (2.4)
Drug interactions	26 (74.3)	6 (17.1)	3 (8.6)
Food interactions	29 (80.5)	5 (13.9)	2 (5.6)
Importance of compliance	31 (96.9)	-	1 (3.1)

Eighty percent of the nurses were satisfied with the way they practiced their profession and almost all (96%) of them told that they would attend to a RDU training.

DISCUSSION

The results of the study showed that the nurses in TRNC Near East University Hospital did not have enough information about RDU. Although the response rate was low, since only one third of the nurses joined the survey, the study may give an opinion about the current situation.

When we looked at the information that nurses checked in an order/prescription (Table 2), we can see that all nurses checked the name of the patient, dosing and instructions of the drug; but they rarely checked the pharmaceutical form of the drug and potential drug interactions. Similar results were obtained in a previous study conducted with pharmacists (7).

The results of the study showed that, patients were rarely warned about drug-food interactions. This may be due to the lack of knowledge of nurses about these interactions. In a study conducted in 2002 by Toklu et al., 66-79% of the pharmacists stated that they gave information to the patients about drug and food interactions. When simulated patients were used in the same study, actual percentage was found to be 2.6% (7). In a study conducted in 2010 in TRNC with pharmacists, they told they gave full drug information to patients, but the actual rate was found to be 6% (10).

All nurses claimed that they informed patients about taking the drug on an empty or full stomach and they mentioned about storage conditions. Eighty two percent of the nurses also told that they got a feedback by 'making the patients repeat the information they had given'. In a study conducted in Istanbul for evaluating the information given to the patients about their drugs, it was found that only 7% of the prescribers confirmed and clarified that the patients understood (8).

The most common problem that nurses encountered in an order/prescription was illegible handwriting. Other problems were missing instructions for usage, missing/ wrong dosage and pharmaceutical dosage form, missing duration time for use, contraindicated drug, unavailable drug in the market/ hospital pharmacy and possible drug/food interactions.

Nurses mostly consulted to doctors to solve these problems. Then, they consulted to their colleagues or they searched a reference. The most common reference was drug information leaflets. High rate of asking a colleague was possibly related to the close working conditions of nurses in hospitals.

The irrational use of drugs cause an economical burden in TRNC and other developing countries (2,3). As an important component of health service delivery RDU needs a team work of health workers. All the health workers have an important role in implementing RDU. Pharmacists have a key role for the treatment of outpatients, whereas nurses have a key role for the treatment of inpatients (11-13). Informing the patient increases the adherence/ compliance with the therapy (14). Giving sufficient/appropriate information about the drug and treatment procedure improves the therapeutic outcome.

Team work is essential for the quality of health services. Medical doctors are authorized for decision making about the drug(s) to be used, pharmacist are authorized for preparation and dispensing of the drugs, and nurses are authorized for dispensing and application of the drugs written in the order/prescription. Nursing covers determination of patient needs and application of care plan to achieve treatment goals as well as the evaluation of the results. Administration of drugs in hospitals is the main duty of the nurses. Interpreting the drugs in doctor's order/prescription, recording the prescribed drug and monitoring patients are expected from nurses. Safety of the patient must be provided during preparation and administration of the drugs. Before applying the drug, a nurse must know the reason for using that drug, its mode of action and standard dosing. This will prevent the mistakes in an order/ prescription or possible interactions. A nurse can monitor the adverse events and report to the pharmacovigilance unit. In hospitals, nurses are the key professionals those provide maximum benefit for the patient from the treatment as they apply the drug and communicate with the patients (11). Moreover, to develop global health, nursing education has to be modified in regard with these practical concerns (15,16).

The changing role of the nurses as a patient counselor/educator to affect patient outcome in the ambulatory settings is essential for the rational use of drugs. The need for a qualified nursing practice enforces improvement of teaching methods in pharmacotherapy. In the nursing schools, pharmacotherapy courses are generally given as lectures by the pharmacologists. However students and nurses often face problems in implementing theoretical pharmacotherapy knowledge to their

pharmacy practice, probably because of the disadvantages of classical and non-interactive teaching methods (17). In order to solve such problems, problem based pharmacotherapy teaching should be inserted to the undergraduate programs and postgraduate training courses (18). Several reports show that postgraduate training courses significantly improve dispensing scores of the pharmacists. The dispensing scores were observed to increase approximately twice in the post-test when compared with the pre-test (19-21).

All the prescribers, pharmacists and nurses should interact with such problem based training on rational drug use. Turkish Pharmacological Society may provide scientific support; but the responsibility must be shared between universities, legal authorities, medical associations and reimbursement institues.

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Kuzey Kıbrıs Türk Cumhuriyeti Yakın Doğu Üniversitesi Hastanesi'ndeki hemşirelerin akılcı ilaç kullanımı konusundaki farkındalığı

GİRİŞ VE AMAÇ: İlaçların irrasyonel (akılcı olmayan) kullanımı hem gelişmiş, hem de gelişmekte olan ülkelerde ciddi tıbbi ve ekonomik sorun oluşturmaktadır. Akılcı ilaç kullanımı (AİK) sağlık çalışanlarından oluşan bir takım çalışmasını gerektirir. Sağlık sisteminde hemşirelerin ilaçların akılcı kullanımı konusundaki rolü önemlidir. Hekim ve eczacıların AİK konusundaki bilgilerini değerlendirmeye yönelik çalışmalar mevcuttur. Ancak hemşirelerin AİK konusundaki bilgilerini değerlendirmeye yönelik bir çalışmaya rastlanmamıştır.

YÖNTEM: Bu çalışmada Kuzey Kıbrıs Türk Cumhuriyeti (K.K.T.C.) Yakın Doğu Üniversitesi Hastanesi'nde görevli ve ankete katılmayı kabul eden 44 hemşirenin AİK konusundaki bilgi düzeyleri ve tutumları değerlendirilmiştir.

BULGULAR: Görüşülen hemşirelerin tamamı kadındır ve yaş ortalaması 38 ± 13'tür. Hemşirelerden %50'si sağlık meslek lisesi, %11.4'ü önlisans, %38.6'sı ise lisans mezunudur. Hemşirelerin mesleki deneyimleri ortalama 16 ± 12 yıldır. Hemşirelerin %77,3'ü AİK kavramını daha önce hiç duymadıklarını belirtti. Hemşirelerin istem/reçetelerde en çok karşılaştıkları sorun okunaksız yazı (%76.7) iken, diğer sorunlar arasında piyasada/hastane eczanesinde bulunmayan ilaç (%37.5), eksik kullanım talimatı (%46.2), doz hatası (%24.4), farmasötik dozaj formu hatası (%8.8) yer aldı. Hemşirelerin bu sorunları çözmek için en yüksek oranda (%97.8) hekimlere, hekimden sonra ise %89.2 oranında meslektaşlarına danıştığı anlaşıldı. Hemşirelerin %80'i mesleğin uygulanış şeklini tatmin edici bulduğunu söylerken %96'sı AİK ile ilgili düzenlenecek eğitime katılacağını ifade etti.

SONUÇ: Hemşirelere yönelik AİK eğitiminin, probleme dayalı öğrenim formatında yapılandırılmış bir eğitim modeli olarak, standardize edilerek yüksek okulların müfredatında yer alması için çaba gösterilmesi gerekir. Ayrıca çalışmakta olan hemşirelerin de bu eğitimlerle temas etmesi sağlanmalıdır.

ANAHTAR SÖZCÜKLER: hemşire; hasta; rasyonel; akılcı ilaç kullanımı; Kıbrıs; eğitim; sorun

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