ARAŞTIRMA / RESEARCH ARTICLE

İlaç uygulamalarında eğitimin etkinliğinin değerlendirilmesine yönelik bir çalışma

(Effect of training program in the Management and Use of Medications Policy on the medication prescriptions)

A.Al-Assaf[1], Sh.Bulekbayeva[2], L.Makalkina[2,3], Zh.Seykenova[2], G.Taytubayeva[2], G.Sadybayeva[2], T.Mazhitov[3], A.Avdeyev[4]

[1]American Institute for Healthcare Quality, Oklahoma, USA
[2]JSC "Republican Children's Rehabilitation Center", Kazakhstan
[3]JSC "Astana Medical University", Kazakhstan
[4]JSC "National Research Center for Maternal and Child Health", Kazakhstan

Özet

Reçete yazarken ve uygulamalarda en sık karşılaşılan hatalar; yanlış ilaç seçilmesi, yanlış doz, uygulama hataları ve hastanın psikolojik durumu dikkate alınarak iletişim kurulması ve polifarmasi düşünülerek ilaç etkileşimlerinin göz ardı edilmesidir. Bu na ek olarak tabiiki yanlış ilaç verilmeside sık karşılaşılan hatalar arasında sayılabilir. Bu çalışmada Kazakistan Astana'da yer alan çocuklara yönelik bir rehabilitasyon merkezinde ilaç güvenliğini sağlamak için yukarda sıralanana noktalar dikkate alınarak uygulanan bir eğitim programının etkinliğine yönelik gerçekleştirilen bir çalışma özetlenmektedir. Araştırma sonucunda bu amaçla geliştirilen ilaç uygulama prosedürü ve yönetim eğitimleri aracılığıyla ilaç güvenliği sağlanmıştır.

Abstract

The most frequent errors in prescribing medicines are: incorrect choice of medicines, incorrect dosage, dosing regimen and route of administration, insufficient accommodation of patient's physiological state and drug interactions thru poly-pharmacy. In addition, a significant contribution to medication errors include incorrect prescribing of medicines.
Study goal is to estimate the effect of training program of Management and Use of Medications Policy on the prescription of medicines practices in JSC "Republican Children's Rehabilitation Center".
We concluded that the implementation and training on Management and Use of Medication Policy is an effective mechanism to ensure the safe use of medicines. Optimized prescribing sheets, routine monitoring of the correctness of its filling and training sessions for medical staff create conditions for the safe use of medicines in the medical organization.

Anahtar Kelimeler:
İlaç uygulama yönetimi, Hasta Güvenliği, İlaç reçeteleri

Key Words:
Management and use of medications, patient safety, prescription of medicines.

Sorumlu yazar/Corresponding author:
A.Al-Assaf, [1]American Institute for Healthcare Quality, Oklahoma, USA

INTRODUCTION

Relevance

The modern pharmaceutical industry offers physicians and patients a huge arsenal of medicines to facilitate healing and improve the course of various pathological conditions. However, achieving the goals of pharmacotherapy the important part is not only the availability and access to certain medicines, but their correct and accurate use [1]. The most frequent errors in prescribing of medicines are: incorrect choice of medicines, incorrect dosage, dosing regiments and route of administration, insufficient accommodation of patient's physiological state and medicines interactions, plus poly-pharmacy. Additionally, a significant contribution to medication errors introduces wrong incorrect prescribing of medicines. This is in disregard for the classical rules of prescribing (Re.Da.Signa), traditionally bad handwriting of doctors, lack of time, etc., and in general, it is underestimation of the risk(s) associated with incorrect administration and prescription of medicines.

Study Goal

The goal of this study is to estimate the effectiveness of training program Management and Use of Medicines Policy on the prescription of medicines practices at JSC Republican Children's Rehabilitation Center in Astana, Kazakhstan.

Study objectives:

1) To develop and improve the prescribing of medicines system.

2) To develop and enhance the training program for pharmacists, doctors and nurses on medication safety.

3) To estimate the effect of training program in the Management and Use of Medicines Policy on the number of errors in prescribing medicines at the Center.

MATERIAL AND METHODS

Materials:

1) Management and Use of Medicines Policy (further – Policy).

2) Evaluation scale of prescribing sheets: no release forms of medications, incorrect single dose, single dose is not indicated, single dose is incorrectly specified, number of rehabilitation cards not indicated, reception/withdrawal of medicine is not indicated, incorrect administration of medicine, no medicines anamnesis, prescribed illegibly/corrections, amount of medicines.

3) Medications prescribing sheets (n= 1071).

Methods:

1) Training program includes 3 stages: training pharmacists, doctors and nurses, and monitoring prescribing sheets. Staff training included lectures in departments and workplaces and testing of knowledge.

RESULTS AND DISCUSSION

In the JSC "Republican Children's Rehabilitation Center" in order to reduce the burden on nursing staff and since 2012, the Center introduced a unique Pilot project (for Kazakhstan) for the dispensing of layout medications by Pharmacy staff and further administered by nurses to the patients in the wards. Further a Policy was developed and implemented, which reflects all stages of the medications 'movement' in hospital [2]. The Policy was developed with the support of consultants for Joint Commission International Accreditation standards such as "American Gulf International" and "Vamed Group"[3].

One of the sections of the Policy is prescribing sheets, which were adapted to international standards (JCI's). To reduce the risk of improper prescribing of medicines and to simplify the doctor's work, prescribing sheets have the following points: time of administration, dose, frequency, route of administration and whether in connection with food, plus any special or additional instructions which were indicated in separate columns (only the doctor emphasizes the necessary instructions).

Analysis of the correctness of prescriptions sheets filling was conducted in three stages:

Stage 1. In order to determine the current situation, to test the rating scale of prescribing sheets and to identify system errors we analyzed 291 prescribing sheets for the 1st period in 2013 (JSC "Republican Children's Rehabilitation Center" has periodic work system, i.e. patients are admitted and discharged from hospital in the same time period, an average in one period treats 300 patients, and one period takes 24 days).

As a result of the analysis it was found: no release forms of medications in 39.86% of prescribing sheets; single dose was not indicated in 4.12%; incorrect dosage in 1.03%; no medications contraindications in 52.23%, illegible handwriting/corrections in 0.02%; incorrect administration of medications in 0.02%. A considerable amount of prescribing sheets in which medications contraindications were not indicated; it is connected with the fact that it was a new requirement and doctors did not consider that filling in this section was necessary.

Meanwhile, it is necessary for the triple control of medications administration and prescribing (Chief of the department - Pharmacist in Pharmacy - Clinical Pharmacologist) because pharmacists and clinical pharmacologist do not have possibility to access to rehabilitation cards in routine practice. Fortunately errors found in prescribing sheets did not cause the harm to patients and were defined as "medication errors without harm to patients".

Stage 2. At the 2nd stage training sessions were conducted with pharmacists. Next, a working group consisting of a clinical pharmacologist and pharmacists conducted training sessions to explain the importance of filling in all fields in prescribing sheets with doctors and nurses. In addition, pharmacists and nurses learned the the thesis of the Policy that they should refuse to dispense medications or medication administration to patients if all rules for filling of prescribing sheets were not observed by doctors. Training sessions took 1.5 months, in all 96 medical staff were trained.

Stage 3. Monitoring of prescribing sheets was randomized; in all 780 sheets were analyzed (10 prescribing sheets in each of the 6 departments for the next 13 periods - 20% of all sheets appointments). It was found; that training sessions had a considerable positive impact in comparing errors in prescribing

sheets between 2-3 periods (active training sessions) and the 4th period (Figure 1).The results showed fourfold reduction of errors in prescribing sheets (comparing 2nd and 4th periods). However the 6th period showed a slight increase of errors in prescribing sheets but that probably was linked to the summer period and the obvious decreased activity of the training sessions.

For improving the monitoring of medicines prescribing in this period pharmacists developed and put into practice checklist for evaluating prescribing sheets, including 24 indicators. In this connection, in further periods there was a decrease of errors in prescribing sheets. Especially noted that the errors in the 13th period was only 6 (decrease by 6.5 times comparing 6th and 13th periods). Moreover, there were no errors in prescribing sheets of those indicators of the highest importance: medications contraindications, medications availability, allergy/ medication intolerance, and correct prescribing of medicines names and dosages.

Thus, it was obvious that the implementation of Management and Use of Medications Policy and its subsequent training mechanisms was an effective mechanism to ensure the safe use of medications. Optimized prescribing sheets, routine monitoring of the correctness of its filling and training sessions for medical staff created conditions (and a culture) for the safe use of medications in the medical organization.

CONCLUSIONS

1) Using optimized prescribing sheets can improve the process of medications prescribing combined with performing quality control and monitoring of medication administration.

2) The implementation of routine monitoring of prescribing sheets with clearly defined indicators in a quality management and patient safety system is an important factor in preventing medication errors.

3) Conducting periodic and regular training sessions for physicians is a necessary condition to enhance safety of medications use.

4) To reduce errors in prescribing medicines and improving the safety of patients it is necessary to introduce a computer system for the prescribing, dispensing and administration of medications.

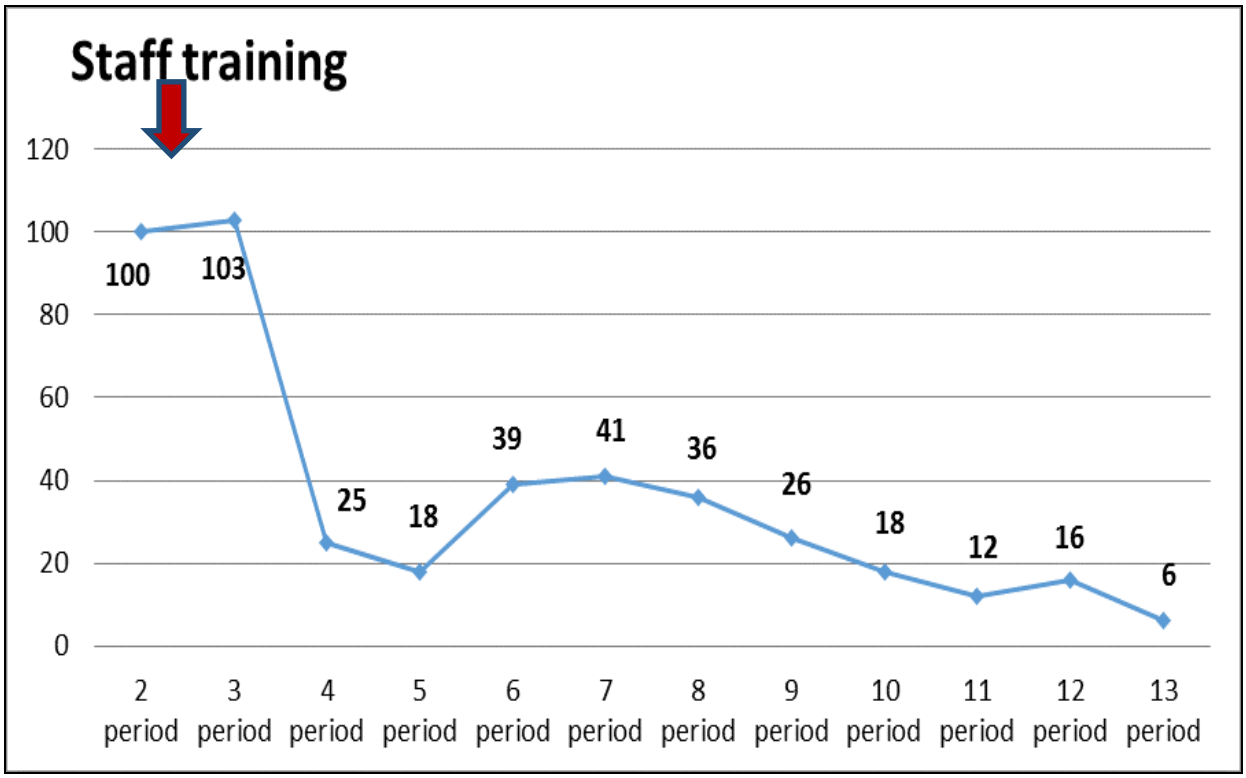

Figure 1. Dynamics of errors in prescribing sheets for 11 months in 2013

REFERENCES

1. Managing Drug Supply. The United States of America by Kumarian Press, Inc.; 1997; 318 pages.

2. Management and Use of Medicines Policy. JSC "Republican Children's Rehabilitation Center". 2005; 35 pages.

3. http://www.jointcomissioninternational.org.