

PRESCRIBING DEFICIENCIES: A matter of lack of knowledge or negligence?

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Background

Drug prescription is the end product of most medical consultations; furthermore it serves as a means so that the appropriate drugs are delivered by the hospital pharmacy to the nursing ward. Despite the importance of good quality of prescriptions, erroneous prescribing habits are not uncommon.

Purpose

The aim of this study is twofold: firstly to evaluate the quality of prescription writing at a hospital clinic of internal medicine and secondly to detect the most common reasons for deficiencies as far as the 'in hospital' prescribing procedure is concerned.

Materials and Methods

A sample of 1132 'in patient' prescriptions derived through the Computerized Physician Entry System (CPOE) in 2013, which contained 9056 unit doses of drugs, were reviewed by the hospital pharmacy as part of its routine job. The choice of prescribed medicine is only available through its commercial and not generic name. The prescriptions were audited using a check list for adequate patient data, name/ signature of doctor, frequency-route-duration of treatment, with focus on the relevant diagnosis reported. Additionally all prescriptions were compared against the hand written medicines' instructions as stated on paper charts available for use by the nursing staff.

Results

No lack of patients' data (name/age/nursing bed) or doctors' name/signature was detected, probably because the filling of these fields consists in obligatory request of the CPOE system. The omission of gender was not evaluated since names are indicative of sex in greek language. On the other hand, allergies were never reported but it cannot be related to the actual absence of them, lack of information or to the consideration on behalf of prescribers' that it is not necessary to be reported. From the comparison with the paper nursing charts, it occurred that the mistaken order of formulations for oral use instead of i.v. was not uncommon. Additionally from a significant number of calls responded by the pharmacy, the difficulty of ordering formulations not commercially packaged in unit doses, (i.e. syrups) was obvious. However the most remarkable prescribing deficiency emerging by this study, is the difficulty of stating the proper relevant diagnosis for the administration of drugs prescribed. The results of our analysis are presented in the table below.

PRESCRIPTIONS WITH IMPROPER STATEMENT OF DIAGNOSIS / IMPROPER JUSTIFICATION OF PRESCRIBED MEDICINES

PRESCRIBED MEDICATION	STATED CAUSE	STATUS	NUMBER OF CASES	COMMENT
Antibiotics	FRACTURE	Partially accepted	15	<i>Serious conditions, (i.e. cancer/multiple fracture) seems to be considered that they can serve as justification for any drug prescribed</i>
	CANCER	Partially accepted	45	
	GENERAL DECLINE	Unaccepted	8	
	OCCLUSION	Unaccepted	13	
	VARIOUS DIAGNOSES (without infection/fever being reported)	Unaccepted	32	
Drugs for Central Nervous Systems & Coronary Disease	GENERAL DECLINE	Partially accepted	6	<i>Misuse of the admission cause of the patient as justification for prescribing his /her long term receiving medication as an outpatient</i>
Drugs for Central Nervous System	MASS INTRA ABDOMINAL DIFFUSE GENERALIZED	Unaccepted	9	<i>Misuse of the principal underlying diagnoses as justification of any drug prescribed</i>
Various drugs (totally irrelevant with the stated condition)	DESTITUTION	Unaccepted	6	<i>Misuse of the principal underlying diagnosis as justification of any drug prescribed without reference to co-existence of secondary diagnoses</i>
	CONNECTIVE TISSUE NEOPLASMS	Unaccepted	4	
No antibiotics but other drugs prescribed	INFECTION	Unaccepted	29	<i>Misuse of the admission cause of the patient as justification for any drug prescribed</i>
Albumin (without hypoalbuminemia being reported)	CANCER	Partially accepted	14	<i>Since hypoalbuminemia is expected be a symptom in conditions stated (i.e. cancer/ multiple fracture) it considered to be omissible</i>
	FRACTURE	Partially accepted	17	
Total number of cases under improper justification			198	= 18%

The most remarkable event is that during a time of one week (due to technical failure of the CPOE system), the field of diagnosis/justification had to be filled in a handwritten way on the printed forms derived from the system. In all that cases (197 prescriptions) no omissions of secondary diagnoses/specific justification of specific drugs/ misuse of the underlying condition or the admission cause were observed.

Discussion

Although the computerized link between the ward and pharmacy has been available since the middle of 2009, prescribing doctors (about 10 medical residents) seem to face difficulties in transforming their verbal/ hand written orders into standard prescription form available through the CPOE. Furthermore, prescribers seem to pay little attention to the significance of existence of relevant diagnosis and they misuse the ICD taxonomy, the Diagnosis Related Group or the admission cause of the patient instead of reporting the actual reason for prescribing specific medicines.

Conclusions

Drug prescribing seems to be a neglected art in the medical practice, since doctors consider that to be a time consuming, bureaucratic procedure that disrupts them from other medical tasks.

The use of a CPOE system, through providing a standard prescription form, has contributed significantly to the legibility and completeness of prescriptions, thus in some cases its poor interface and design may generate some kinds of prescription deficiencies reported.

The role of hospital pharmacists in raising the awareness of doctors towards upgrading their prescribing skills is indispensable, especially since the majority of preventable medication errors occurs at the ordering stage.

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