MEDINFO 2007

The Effect of Computer-assisted Prescription in Critical Care Unit

Authors: Dr. Humberto Fernán Mandirola Brieux, Fabián Korilen, Pablo Laguzzi & Sebastían Guillén

speaker: Dr. Humberto F. Mandirola Brieux

Email: hmandirola@biocom.com

BIOCOM

http://www.biocom.com

Objetive

In this work we propose to determine in what proportion computer-assisted prescription (CAP) reduces errors in medical indications if we compare it with hand-written medical prescription (HWP) in Intensive Care Unit (ICU) in Belgrano Hospital in Buenos Aires, Argentina.

Will determine if there are advantages between CAP and HWP. A retrospective analysis was used over an amount of 98 medical indications in ICU (intensive care unit) registered during the first quarter of 2006.

Introduction

- Advantages and benefit-cost which CAP enjoys at present are, in a way, affected by some legal aspects.
- There are existing contradictions between vanguard law and Digital Signature Law 25.506 and General Law of Medicine Exercise (law Nº 17132) which in its article 19 sub-sections 7 reads: “Prescriptions shall be hand-writing, in Spanish, dated and signed”. This fact at present complicates the situation of **physicians who use CAP** because they run the risk of being sanctioned.

Materials and Methods

we have chosen 43 traditional hand-written prescriptions and 55 computer-assisted ones to elaborate this study and to compare existing differences between them both.

Computer Program

It consists in an electronic form with the following fields:

drug /posology /doses /administration route/date of beginning and end of the treatment.

The output is the printing of a report with daily indications for each patient.

BIOCOM

Analyzed variables

- 1- **Incorrect information**: Information which is not relevant for patient treatment and which can lead to confusion. Indications which do not correspond to a patient and have been prescribed by mistake.
- 2- **Incorrect doses**: Doses calculated by mistake or indications wrongly transcribed.
- 3- **Omissions**: Lack of any of the elements in the indications, for example, when a transcription has not been made because somebody forgot to do it.
- 4- **Illegibility**: When two or more members from the committee cannot understand one or more words.

BIOCOM

Results

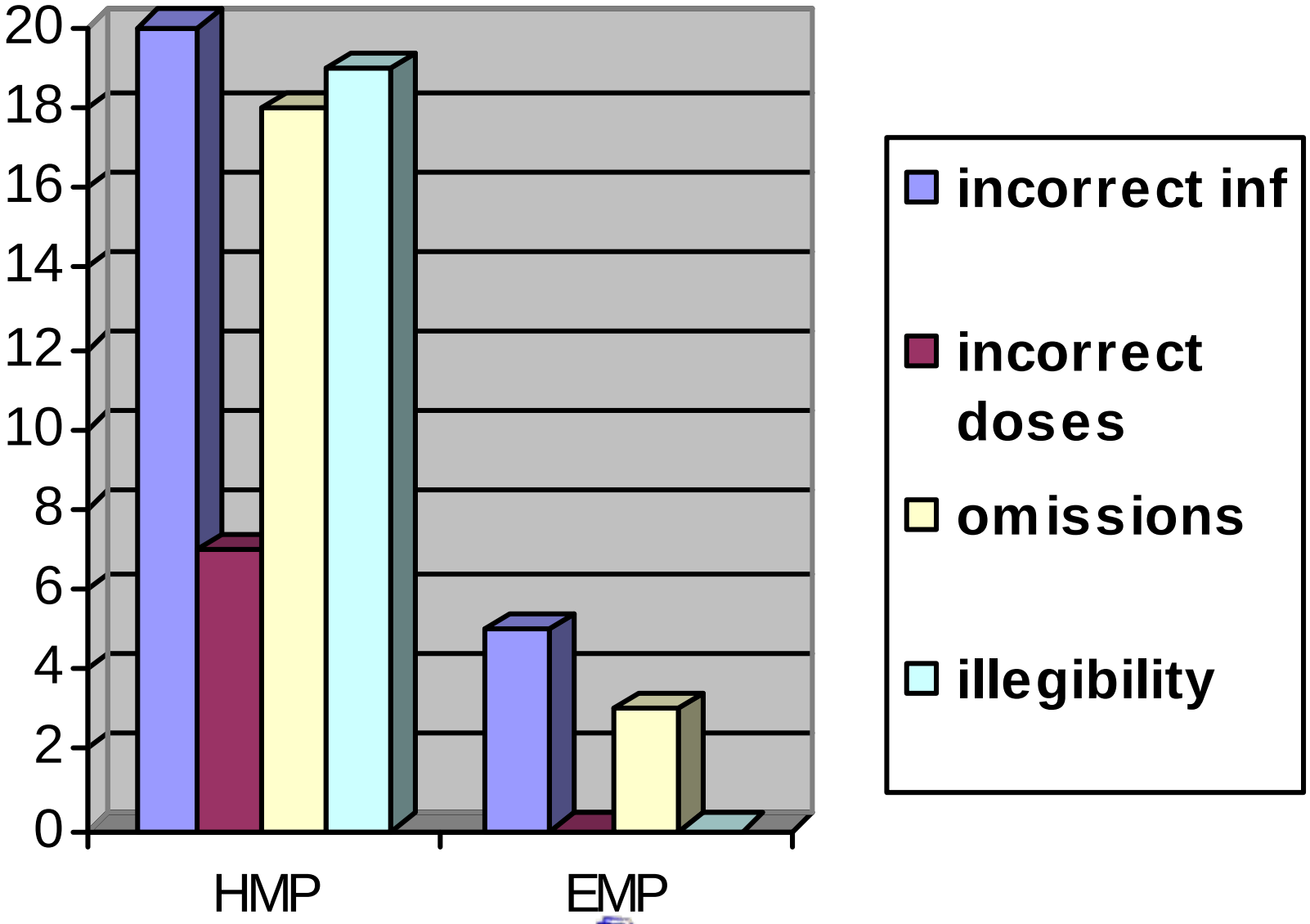
T otal of prescription mistakes (HWP) = 41,86 % (CAP)= 7,27%.

incorrect information (HWP) = 20,93 % (CAP) = 5,45%,

omissions (HWP) = 18,60 % (CAP)= 3,64%,

incorrect doses (HWP) = 6,98 % (CAP)= 0%,

illegibility (HWP) = 18,60 % (CAP)= 0%.



BIOCOM

http://www.biocom.com

Discussion

Results are eloquent:

41% of mistakes in HWP vs.

7% in CAP.

Main causes in this difference are illegibility problems and mistakes in transcription in daily indications.

Discussion

- It is important to consider that in many works it is indicated that Medical Error has an important incidence in morbidity and mortality of patients and longer permanence of patients in hospital so it has a high incidence in increase of health costs basically for bad administration and limitless resources use.

Conclusions

- To incorporate CAP to daily practice, it will be necessary to count with the digital signature of the physician; in this way it will be used as a legal proof tool. It is important to consider that a wrong manual indication could generate, for omission, illegibility, loss, damage or other, a medical mistake which produces a bad praxis with a morbidity and health cost easily avoidable if CAP is used.

Thank you for your attention…! You can send your comments, doubts or suggestions by email to :

hmandirola@biocom.com

http://groups.yahoo.com/group/biocom/

Dr. Humberto F. Mandirola Brieux

BIOCOM

http://www.biocom.com