ANTIMICROBIAL STEWARDSHIPS: SEMI-AUTOMATIC VALIDATION TOOL FOR ANTIMICROBIAL PRESCRIBING BASED ON REAL TIME ANTIBIOGRAM

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CP-234

BACKGROUND

Antimicrobial stewardship. Mayo Clin Proc. 2011;86(11):1113-23.

Antimicrobial stewardships in hospitals to help patients receive the most appropriate antimicrobial with the correct dose and duration.

PURPOSE

To assess obtained data of the first three months after a semi-automatic validation tool for antimicrobial prescribing was implanted.

MATERIALS AND METHODS

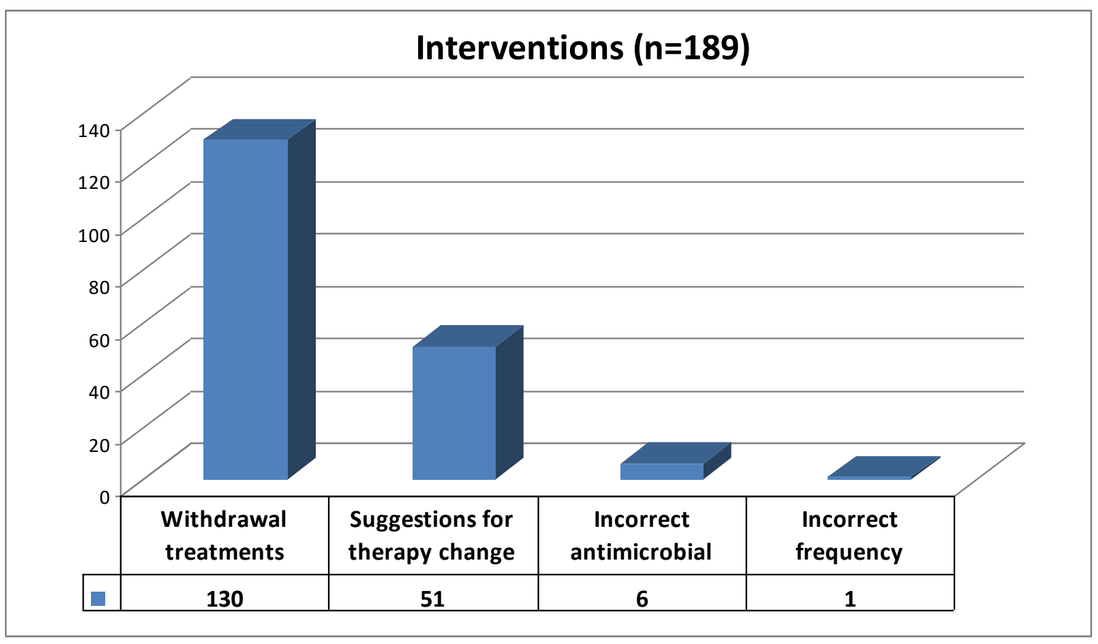
A semi-automatic validation tool for antimicrobial prescribing based on real time antibiogram was developed.

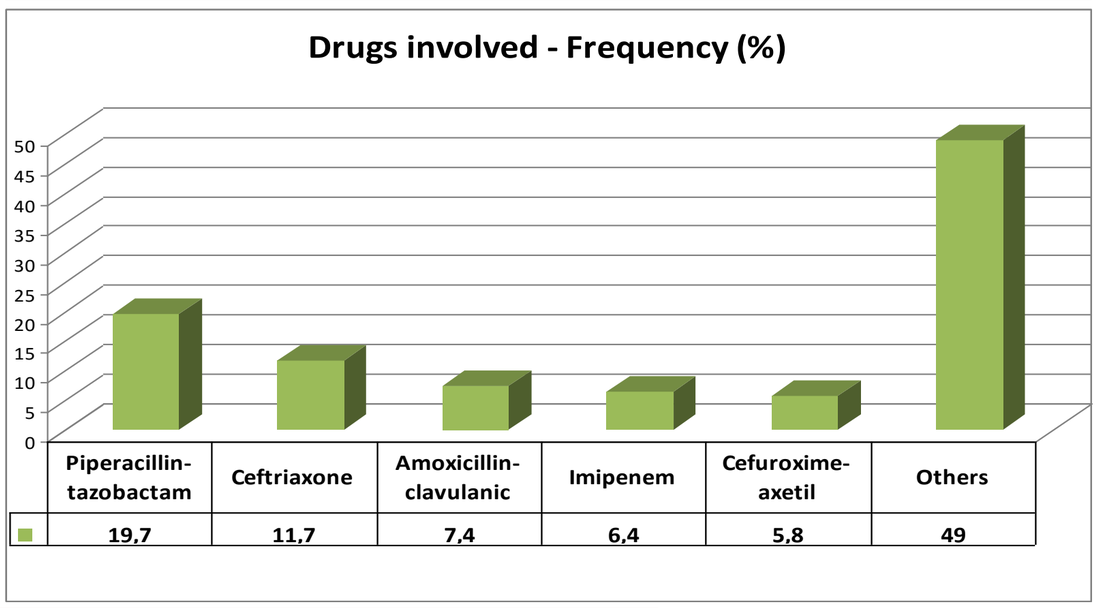
- Patients' antimicrobial treatments were obtained using Farmatools® application from Computerized-Physician-Order-Entry-System (CPOE). Omnium® antimicrobial susceptibility database were checked from Microbiology laboratory. Both databases were integrated and associated in Access® using ODBC.
- The software automatically assessed antimicrobials and antibiograms on all inpatients, checked and notified whether medical prescriptions were appropriate.
- Automatically generated reports were validated by the pharmacist each day. The pharmacist reported to the physicians the discrepancies detected between antimicrobials prescriptions and antibiograms, using CPOE.

From 01/07/2015-15/10/2015, medical department, antimicrobials involved and pharmaceutical interventions were recorded. The latter were classified as withdrawal treatments, therapy change, incorrect antimicrobial dose or frequency.

RESULTS

- BENEFITS: All inpatients with antimicrobial and antibiogram were reviewed in under an hour/day





Automatically generated report example:

PROGRAMA DE OPTIMIZACIÓN DE USO DE ANTIMICROBIANOS

PACIENTE: [redacted] NUHC: [redacted]
NUHSA: [redacted]

CAMA: 339-P FECHA INGRESO: 26/01/2016 20:42:00

TRATAMIENTO ACTUAL		FECHA INICIO	FECHA FIN	
FLUCONAZOL	NUEVO TRATAMIENTO	01/02/2016		Nº DIAS: 1
MEROPENEM	NUEVO TRATAMIENTO	01/02/2016		Nº DIAS: 1
TRATAMIENTOS ANTERIORES		**FECHA INICIO**	**FECHA FIN**	
PIPERACILINA-TAZOBACTAM		27/01/2016	01/02/2016	Nº DIAS: 5

NUMERO PETICION MICRO: 127048049

MUESTRA: EXUDADO DE HERIDA **Solicitado:** 27/01/2016

Pseudomonas aeruginosa NUEVO ANTIBIOGRAMA

Amikacina	INTERMEDIO
Amoxicilina/A.clavulánico	RESISTENTE
Ampicilina	RESISTENTE
Cefalotina	RESISTENTE
Cefepime	RESISTENTE
Cefotaxima	RESISTENTE
Cefoxitina	RESISTENTE
Ceftazidima	RESISTENTE
Cefuroxima	RESISTENTE
Ciprofloxacina	RESISTENTE
Cotrimoxazol	RESISTENTE
Ertapenem	RESISTENTE
Gentamicina	RESISTENTE
Imipenem	SENSIBLE
Levofloxacina	RESISTENTE
Meropenem	INTERMEDIO
Piperacilina/Tazobactam	SENSIBLE
Tobramicina	RESISTENTE

REVISAR TTO ANTIBIOTICO

CONCLUSIONS

The semi-automatic validation tool allows time optimization: the antimicrobial stewardship team was able to check all inpatients antimicrobial prescriptions each day, based on antibiograms. Almost three-quarters of pharmacist interventions were withdrawal treatments proposals, followed by suggestions for therapy change.