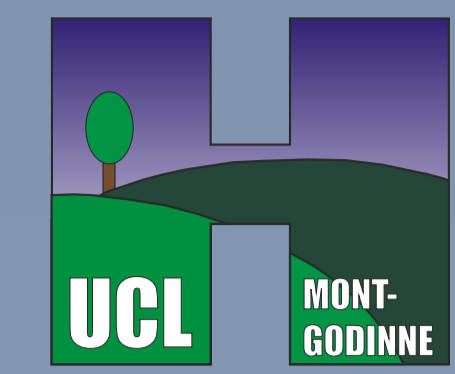


Antibiotic Drug Monitoring Quality Assessed by a Clinical Pharmacist : Qualitative Study

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Objectives

- gaining insight in issues causing poor performance of antibiotic therapeutic drug monitoring (TDM) revealed by an observational study (companion abstract)
- collecting the perception of health care professionals and laboratory personnel on current TDM practice
- Exploring approaches for optimizing TDM (collaboration with a clinical pharmacist).

Design

Focus group interviews with independent moderators with:

- purposive sampling of involved health care providers;
- validated questionnaire to guide discussion;
- fostering group interaction to generate data;
- Post-interview analysis of verbatim transcripts with specialized software (QSR Nvivo 1.2 for Windows®), based on the grounded theory approach (classification of emerging themes).

Setting

3 groups:

- prescribing physicians (7),
- nurses (10), and
- laboratory technicians (6),

all involved in antibiotic TDM as performed in orthopaedic surgery, general surgery, neurosurgery, vascular surgery, haematology, and pulmonary wards in a 400 beds teaching hospital.

Main outcome measures

- issues causing poor antibiotic overall TDM performance, approaches for
- optimizing TDM performance supported by group consensus

Results

Key Issues identified :

- nursing work overload
Nurse 1: 'If there are four patient calls, we will first answer them, ...the sample will be postponed... because we cannot leave somebody in a difficult situation.'
- insufficient education in pharmacokinetics
Physician 1: 'We learned it on the job... there's clearly a problem of medical education.'
- insufficient information communication
Physician 1: 'At least 10% of sampling demands is completed wrongly.'
Physician 3: '...if we take the result in consideration...catastrophe.'
- conflicting guidelines
Nurse 4: 'Different recommendations exist in our hospital ...they recommend different sampling times...'
Nurse 6: 'This leads to confusion.'
- lack of perception of positive benefit/risk ratio
Nurse 5: 'We would be much more concerned if we were properly informed about the importance of a result for our patient...'
Nurse 7: 'If somebody would tell us ...that a patient has renal insufficiency... related to the antibiotic and that TDM is important to adapt the dose we would pay more attention.'

Approaches for optimization (for which there was consensus among participants):

- continuous education
Physician 1: 'We must organise a continuous education ever six months when the junior doctors change.'
Nurse 4: '...to sensibilise the nursing team during team meetings... I think that information and sensibilisation will lead to a considerable amelioration.'
- daily multidisciplinary collaboration with infectious disease physicians and clinical Pharmacists
Physician 5: 'If I need to do that [assure a correct administration scheme even when the patient has a medical exam]...I simply don't have the time to check the patient file... I want somebody to take care of that for me...somebody who can invest enough time to take care of that permanently and who has access to all this information in the patient's file.'
Lab technician 3: 'We cannot take this responsibility alone...and it's impossible for us to go to the wards...we would like to collaborate with somebody who takes care of everything...a specialized pharmacist...in collaboration with the infectious disease physicians.'
- simple and uniform guidelines and procedures
Nurse 2: 'One TDM sample drawn AM together with all the other samples...that would considerably facilitate our work.'
Physician 3: 'I would suggest to make one simple document containing a simple list of indications and to state clearly that if sampling conditions are not respected, TDM is useless and can even harm the patient.'
- implementation of a simpler administration scheme
Nurse 5: 'For all problems related to the control of the duration of administration, continuous infusion is a good solution.'
Nurse 8: 'and there's no peak level to be drawn...'
- increased staffing
Nurse 9: 'We don't have the time to go back and check for administration problems... it would be good to have a supplementary person.'

Conclusions

Correct performance of TDM and its implementation in routine clinical care needs to be critically assessed and appears to be mainly dependent on non laboratory-related parameters.