

On-ward participation of a hospital pharmacist in a Dutch Intensive Care Unit reduces prescribing errors and related patient harm

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Registration date 19/08/2010	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 05/10/2011	Condition category Other	<input type="checkbox"/> Individual participant data

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

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Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
N/A

Study information

Scientific Title

On-ward participation of a hospital pharmacist in a Dutch Intensive Care Unit reduces prescribing errors and related patient harm: an intervention study

Study objectives

Patients admitted to an Intensive Care Unit (ICU) are at high risk for medication errors and related patient harm (preventable Adverse Drug Events [ADEs]), due to the critical nature of their illnesses, polypharmacy, use of high-risk drugs, and a high frequency of changes in pharmacotherapy.

Several studies have shown that on-ward, daily participation of a clinical pharmacist in the ICU can effectively and efficiently reduce the number of medication errors and related patient harm. Given the increasing awareness of medication safety problems in The Netherlands, a proactive on-ward involvement of Dutch hospital pharmacists (an active approach) seems also desirable. Within the current organization model of the hospital pharmacy in The Netherlands, mostly a passive approach is utilized in the form of on-call consultation duty by a hospital pharmacist.

The aim of this trial is to investigate whether participation of a hospital pharmacist can be an effective approach in reducing prescribing errors and related patient harm (preventable Adverse Drug Events [ADEs]) in Dutch healthcare setting.

Ethics approval required

Old ethics approval format

Ethics approval(s)

The Medical Ethics Committee of the Academic Medical Centre/University of Amsterdam confirmed that this trial does not require ethics approval under the Medical Research Involving Human Subjects Act (WMO) on the 23rd of June 2010 (ref: 10.17.1044)

Study design

Prospective study comparing a baseline period with an intervention period.

Primary study design

Interventional

Secondary study design

Cohort study

Study setting(s)

Hospital

Study type(s)

Prevention

Participant information sheet

N/A

Health condition(s) or problem(s) studied

Preventable Adverse Drug Events (ADEs); pharmacist participation; drug prescribing

Interventions

The intervention was an on-ward participation program for a hospital pharmacist consisting of the following activities: The hospital pharmacist assigned for this study evaluated each new medication order for its appropriateness of indication and duration of therapy, drug dosage and frequency, risk of drug-drug and drug-disease interactions as well as pharmacological duplications and omissions. The international and national pharmacotherapy guidelines and local evidence-based pharmacotherapy protocols were used for this evaluation. For each prescribing issue detected, the ICU hospital pharmacist recorded the date, patient characteristics, admission type, medication details and his recommendation. The detected prescribing issues and the recommendations were discussed with the attending ICU physicians during the daily multidisciplinary patient review meeting. If consensus was reached between the ICU hospital pharmacist and the attending ICU physicians on a recommendation regarding a prescribing issue, then that issue was scored as a prescribing error and the medication order was corrected by the responsible attending ICU physician. If consensus could not be reached, the prescribing issue was not scored as a prescribing error and medication order was regarded as 'appropriate'.

The total duration of the intervention was 8 months.

Intervention Type

Other

Phase

Not Applicable

Primary outcome measure

The incidence of prescribing errors per 1000 monitored patient-days.

Secondary outcome measures

The number of prescribing errors per 1000 monitored patient days that resulted in patient harm (preventable Adverse Drug Events).

Overall study start date

03/10/2005

Completion date

30/06/2006

Eligibility

Key inclusion criteria

All patients admitted to the ICU between October 3, 2005 and June 30, 2006

Participant type(s)

Patient

Age group

Adult

Sex

Both

Target number of participants

Medication orders of 1173 patients were reviewed by the hospital pharmacists involved in the study

Key exclusion criteria

Does not match inclusion criteria

Date of first enrolment

03/10/2005

Date of final enrolment

30/06/2006

Locations**Countries of recruitment**

Netherlands

Study participating centre

Meibergdreef 9

Amsterdam

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1105 AZ

Sponsor information**Organisation**

Netherlands Organisation for Health Research and Development (ZonMw) (Netherlands)

Sponsor details

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Sponsor type

Research council

Website

<http://www.zonmw.nl/nl/>

ROR

<https://ror.org/01yaj9a77>

Funder(s)

Funder type

Research council

Funder Name

Netherlands Organization for Health Research and Development (ZonMW) (Netherlands) - partially funded by research grant

Funder Name

Academic Medical Centre (AMC) (Netherlands) - Hospital Pharmacy Department and Adult ICU Department

Results and Publications

Publication and dissemination plan

Not provided at time of registration

Intention to publish date

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/07/2010		Yes	No