

An assessment of the impact of a clinical pharmacist on an Intensive Care Unit at a Private Hospital

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Declaration

I, Elana van Huyssteen, declare that the research report is my own work. It is being submitted for the purpose of completion of the degree of Master in Medicine, Pharmacotherapy, at the University of the Witwatersrand, Johannesburg. It has not been previously submitted for any other degree at this or any other University.

E van Huyssteen (Ms)

6th day of November 2012

Dedication

I dedicate my work to my parents who gave me the biggest gift of all, education, and who also taught me that everything is possible with hard work and some perseverance.

I also dedicate it to my husband. Thank you for all your support and patience.

To Zianna: “You haven’t failed until you stop trying.”

Abstract

Background: The role of the pharmacist is changing. They are assuming greater roles and responsibilities. These roles and responsibilities have not been established or evaluated in the private sector in South Africa.

Objectives: To determine whether there was a decrease in the rand-value of the monthly credits (medications not used by the patient and returned to the pharmacy for a credit) for the ICU pre- and post-implementation of clinical pharmacy services.

To determine whether there was a decrease in the number of daily scripts from the ICU reaching the pharmacy pre- and post-implementation of clinical pharmacy services.

To determine whether there was a decrease in the average ICU stay (a decrease in the average amount of days that the patient spends in ICU) pre- and post-implementation of clinical pharmacy services.

To compare the total medication bill of patients pre- and post-implementation of clinical pharmacy services. Patients with the same type of diseases were grouped and compared.

A breakdown of the classes of the drugs used pre- and post-implementation of clinical pharmacy services were given and the amount of each drug and the rand value over both years were explored.

To assess the incidence of interventions performed by a pharmacist during the provision of clinical pharmacy services.

To determine the need of a clinical pharmacist by the number of interventions made.

Method:

Aims

To determine whether there is a need for a clinical pharmacist in the intensive care unit.

To determine whether there were cost-savings involved with a clinical pharmacist attending to the intensive care unit.

Study site

The study was conducted in the intensive care units at a private hospital in Pretoria. The intensive care units consists out of the Medical ICU (11 beds) and the Trauma ICU (17 beds).

Study design

The design of the study was quantitative and non-experimental. Data were collected retrospectively.

Study period

Patients admitted to the ICU one year before (October 2008 – September 2009) and one year after (October 2009 – September 2010) the implementation of dedicated ICU pharmacy services were retrospectively reviewed. Clinical pharmacy services were implemented from the 1st of October 2009.

Sample population

The records of all patients, adults and children, admitted to the ICU unit over the study period October 2008 to September 2010 were included.

Results:

ICU stay and diagnoses

Average ICU days for the year pre-clinical pharmacy services were 5.56 days per patient and for the year post-clinical pharmacy services 5.25 days per patient. The two groups were very similar regarding ICU days.

Patients with the same type of diseases were grouped and compared.

Monthly credits

The total amount of credits in the year post-clinical pharmacy services, decreased with an amount of R335 160.30. That equals a decrease of 48.86%.

Number of daily scripts

There was a decrease of 809 prescriptions in the year post-clinical pharmacy services.

Breakdown of the classes of drugs

The total number of items dispensed in the year post-clinical pharmacy services decreased with 19 678 items.

The stock value for the year post-clinical pharmacy services decreased with R1 595 622.

Total medication bill

The ICU drug total for the year pre-clinical pharmacy services was R14 563 687. The ICU drug total for the year post-clinical pharmacy services was R13 030 335.39. The total decreased with R1 533 351.61.

Interventions made by the clinical pharmacist

The clinical pharmacist made 349 interventions for the year post-clinical pharmacy services, compared to the 105 interventions made by the nursing staff and attending physicians for the year pre-clinical pharmacy services. These interventions included detection or prevention of allergies, clinical recommendations, detecting of dispensing errors, detecting of dosing errors, duplicate therapy and transcribing errors.

Conclusions: There is a need for clinical pharmacy services in a private hospital. The pharmacist positively contributes to and is directly involved in the care of critically ill patients. Pharmacy education programmes in South Africa will have to be adjusted to accommodate this new branch of pharmacy.

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GLOSSARY/NOMENCLATURE

ICU	Intensive care unit
SCCM	The Society of Critical Care Medicine
SEP	Single exit price
ICD 10 code	International and Statistical Classification of Diseases and Related Health Problems (10th Revision) Code - A World Health Organization Publication

