World Health Organization

Patient Safety

A World Alliance for Safer Health Care

RESEARCH

Better knowledge for safer care

Patient safety in developing and transitional countries

New insights from Africa and the Eastern Mediterranean

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FOREWORD

Studies from a variety of developed countries show that about one in ten patients are harmed while receiving hospital care. The consequences are devastated lives and billions of dollars unnecessarily spent on prolonged hospitalization, loss of income, disability and litigation. However, very little is known about the actual harm that occurs to patients in developing or transitional countries, although the available evidence suggests that they may have an even higher risk of suffering patient harm. Understanding the magnitude of the problem and the underlying factors represents the first step towards improvement. WHO is making a concerted effort, in different parts of the world, to identify the main issues affecting safe care in developing and transitional countries and to use these data to begin to developing and implementing effective solutions.

The Eastern Mediterranean/African Adverse Events Study is a large scale study carried out in six Eastern Mediterranean and two African countries, to assess the number and types of incidents that can occur in their hospitals and harm patients. These countries had the courage to voluntarily participate in this study and showed great commitment and enthusiasm in carrying out the work.

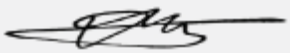
To carry out this study, a collaborative model was established in which 26 hospitals from eight countries, **Egypt**, **Jordan**, **Kenya**, **Morocco**, **South Africa**, **Sudan**, **Tunisia** and **Yemen** participated. This was done under the leadership of their respective Ministries of Health, thereby enhancing both the likelihood that these results would be used to make a difference, and would also help to build a critical mass of professionals trained in patient safety, which is enormously important for the future of these regions' health services.

The hospitals (and nations) that collaborated have demonstrated their dedication to improving the safety of their patients and their health systems. The tasks undertaken in this project have been wide-ranging and substantial.

The collaboration, led by the principal investigators and fostered by the technical guidance provided by the World Health Organization, offers a model for new international projects. The political, social and institutional momentum generated around the research project has been significant and we hope it will be long- lasting and helpful, not only in these regions but in others worldwide.

This document contains the main findings of the Eastern Mediterranean/African Study. It presents some of the risks associated with harm in the participating hospitals, as well as the consequences. These data will be critical to developing a blueprint for improving patient safety in developing and transitional countries, and its lessons and key messages will be applicable far beyond the borders of the participating countries.

Congratulations to all those who have contributed to this landmark project.



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INTRODUCTION

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Two of the narratives from the study

1 A 23 year-old woman, at term of her first pregnancy, was admitted to hospital with labour pains. The baby was born by normal vaginal delivery, but the mother developed postpartum haemorrhage. Several hours later she was taken to the operating theatre and was given blood and fluid resuscitation. On examination the uterus was very lax. Medication to contract the uterus and stop the bleeding were then administered, but still the uterus did not contract and the bleeding continued. Finally it was decided to remove her uterus, since it was the only way of stopping the bleeding. However, the patient, heavily weakened by the severe loss of blood, died on the operating table. Had the patient been under close observation following the delivery of her baby and been given medication to contract her uterus straight away, this complication would not have occurred and the mother would have survived.

2 A 3-month old baby was brought, by ambulance, to the emergency department with signs of meningitis (irritable, crying and poor feeding). The baby had not received, at six weeks, the vaccination to prevent Haemophilus influenza meningitis. The examining doctor said that the baby did not have a temperature, but temperature was not recorded in the care records. There was no evidence that neck stiffness was tested (typical sign of meningitis). No diagnosis was made and the baby was discharged from the emergency department. The mother was told to return if her baby developed a bulging fontanel or neck stiffness. The baby returned 48 hours later and was then admitted with a diagnosis of Haemophilus influenza meningitis. The patient spent the next 3 months in hospital, having developed cerebral palsy, as well as other consequences of brain damage such as epilepsy and visual and hearing impairment. Since the doctor suspected meningitis, a lumbar puncture would have been indicated and if positive, treatment could have been initiated immediately. Also, the child should have received vaccination against Haemophilus influenza meningitis. It is not clear how great the disability would have been if treatment had been initiated two days prior, at the first hospital visit, but presumably much less severe.

Patient harm: a neglected public health problem

Unfortunately, these stories are not unique. They are just two of tens of millions of patients who suffer harm from health care. While the exact magnitude of the problem remains unclear, particularly in developing and transitional countries, we know that patient harm is a global public health problem that has not yet received the attention and firm response it needs. The information gathered through this study is essential to begin understanding the burden of unsafe care in these countries and is a first step towards identifying locally effective solutions.

This document gives the results of a study conducted in selected hospitals of two African countries: **Kenya** and **South Africa** and six Eastern Mediterranean countries: **Egypt**, **Jordan**, **Morocco**, **Sudan**, **Tunisia** and **Yemen** with the objective of measuring harmful events occurring in these hospitals. It is the first large scale study which attempts to measure patient harm in hospitals in these regions.

It is our hope that given the magnitude of the problem revealed by the study results these will encourage decision-makers to make patient safety a priority in their countries.

The challenges are enormous but patient safety is a basic human right and deserves effort and commitment.

Five facts about patient safety

- One in 10 patients is harmed while receiving hospital care in developed countries [1]
- 1.4 million people worldwide suffer from hospital-acquired infections at any given time [2]
- Unsafe injections alone cause 1.3 million deaths every year. In some countries, the proportion of unsafe injections is as high as 70% [2]
- At least half of the medical equipment in developing countries is unusable or only partly usable [2]
- Additional medical expenses resulting from unsafe care cost some countries many billions of dollars each year [3,4].

The magnitude of unsafe care

Health-care interventions are intended to benefit people, but unfortunately they sometimes present an important risk of harm to the patient. Too many patients acquire infections or suffer falls while in hospital, are wrongly diagnosed, given the wrong treatment or medication dose, or are affected by other types of health care-related incidents.

Studies conducted in different parts of the world reveal that at least 10% of patients are harmed while receiving hospital care in developed countries. In view of this alarming figure, decision-makers must make every effort to improve patient safety. This means ensuring that patients are safe from accidental injuries during medical care and that appropriate action is taken to avoid, prevent or correct any health care-related incidents or problems leading to patient harm.

Harmful incidents

Incidents which occur during health-care delivery and cause unintentional and preventable harm to patients are called harmful incidents or adverse events. These incidents happen at an alarming rate and with devastating consequences. The WHO Patient Safety initiatives aim to reduce the occurrence of harmful incidents as much as possible.

[1] WHO Patient Safety Research. World Health Organization, 2009. Available at *http://whqlibdoc.who.int/publications/2009/9789241598620_eng.pdf*
[2] 10 facts on Patient Safety. Available at *http://www.who.int/features/factfiles/patient_safety/en/index.html*
[3] UK Department of Health: An Organization with a Memory. HMSO, 2000.
[4] Institute of Medicine: To Err is Human. Kohn LT, Corrigan JM, Donaldson MS; Eds. 1999

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Table 1

Design of the Study

Scope	18 146 patients from 26 hospitals in **Egypt, Jordan, Kenya, Morocco, South Africa, Sudan, Tunisia and Yemen**
Design	Two-step retrospective study: medical records of randomly selected past patients were screened for harmful incidents. Cases with a high likelihood of these were subsequently given a more in-depth examination to assess the possible harmful incidents that might have occurred.
Subjects of study	Patients hospitalized in the selected hospitals during 2005.
Study objective	Assess how many harmful incidents occurred during 2005 (incidence rate) and identify the types of harmful incidents, their preventability and contributing factors, as well as collecting other essential information.

Most of the studies conducted to estimate the incidence of harmful incidents originated in developed countries. Little was known, up to now, about the reality of unsafe care in this part of the world. For this reason, WHO Patient Safety conducted, from 2006 to 2008, a large-scale study involving 26 hospitals in eight countries from the Eastern Mediterranean and Africa. In total, the hospital experiences of more than 18000 patients were examined in these two regions (details on the design of the study are available on table 1).

Six countries in the Eastern Mediterranean and two countries in Africa showed commitment and responsibility by participating in this study.

We wish to once again acknowledge the voluntary participation of these eight countries in this first-of-its-kind study in the Eastern