- **State-of-the-Art Review.**

The Challenge of Patient Safety in Egypt

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The Concept of Patient Safety

Patient safety is defined as "the absence of preventable harm to patients during the process of health care (1). Unsafe care is one of the top 10 leading causes of death. WHO estimated that 10% of all inpatient visits result in unintended harm in developed countries, and that 75% of all adverse events occur in low- and middle-income countries (LMIC). In the US alone, the economic cost of unsafe care has been estimated at 1 trillion USD, while medication errors alone across the world account for 42 billion USD (2).

Harm to patient is not inevitable and can be avoided. To achieve this, clinicians and institutions must learn from past errors and learn how to prevent future errors. To Err Is Human (3) breaks the silence that has surrounded medical errors and their consequence and sets forth a national agenda for reducing medical errors and improving patient safety. Emphasis is placed on the system of care delivery that prevents errors; learns from the errors that occur; commitment of all stakeholders to a culture of safety, and development of information systems for the delivery of health care (4).

Magnitude of the Problem

The magnitude of the problem in Egypt was not known until 2006. In April 2006, the World Alliance Research Council was formed to develop the Patient Safety Research Agenda. The Northern Centre for Healthcare Improvement (NCHI) was invited by the World Health Organization's Eastern Mediterranean Regional Office (WHO/EMRO) to coordinate the Prevalence Studies Project in 8 countries: Egypt, Tunisia, Morocco, Sudan, Yemen, Jordan, South Africa, and Kenya. The objective of the project was to measure the size and nature of patient harm from health care in developing and transitional countries. Of the 15548 records reviewed, 8.2% showed at least one adverse event (AE), with a range of 2.5% to 18.4% per country. Of these events, 83% were judged to be preventable, while about 30% were associated with death of the patient. About 34% adverse events were from therapeutic errors in relatively non-complex clinical situations (5).

Focus on Egypt study will be discussed here. A two-stage retrospective audit of 1358 medical records in three hospitals was conducted. The hospitals were major acute care facilities. The medical records were selected by random sampling from the hospital in-patient discharge lists for the year 2005. Two stage screening. Initial screening based on 18 explicit criteria. Records that screened positive were then reviewed by a senior physician for determination of adverse event, its preventability, and the resulting disability.

Results showed that despite poor documentation in medical records, the research group could identify adverse events in 6% of the reviewed records. The hospital rates ranged from 1% to 11%, and the differences were not reduced when adjusted for age and sex ($p < 0.0001$). The AE rate increased with age from 0.9 for ages 0 – 14 to 8.8 for 65+ years. Males had a higher AE rate of 6.4%, but this was not statistically significant ($p=0.4$), however, females had a higher proportion of AEs with the serious disability categories. The oldest patients (>65 years) have a greater risk of being associated with disability that is

more serious. In 49% of AEs, the length of stay increased by 7 days. Admissions with AEs incurred an additional 3.6 bed days.

The AE rates were related to discharge status, with the majority being discharged home and having an AE rate of 3.3%. Those discharged dead had a high rate of 43.5%, while those transferred to another hospital had a rate of 26.3%. Of those having AEs, 52% suffered severe permanent disability or death.

Therapeutic and diagnostic errors were the most frequent type of errors, followed by surgical and non-surgical procedures. Errors of omission make up 58% of AEs. Most AEs were highly preventable, 46%. Education, use of protocols, and record keeping were seen as areas that would reduce AEs.

Global Patient Safety Challenges

Beginning in 2004, the World Health Organization (WHO) working in partnership with the World Alliance for Patient Safety, initiated the two previous Global Patient Safety Challenges: Clean Care is Safer Care, followed a few years later by Safe Surgery Saves Lives. Both aimed to gain worldwide commitment and spark action to reduce health care infection and risk associated with surgery, respectively. The scale and speed of implementation of these Challenges remains unprecedented. They secured strong and rapid commitment from health ministers, professional bodies, regulators, health system leaders, and health care practitioners.

WHO is initiating the third Global Patient Safety Challenge with the theme of medication safety. The Challenge was launched in March 2017 to gain worldwide commitment and action to reduce severe, avoidable medication-related harm by 50% in five years, specifically by addressing harm resulting from errors or unsafe practices due to weaknesses in health systems. The Challenge aims to make improvements at each stage of the medication process, including prescribing, dispensing, administering, monitoring and use. Errors occur most frequently during administration, however there are risks at different stages of the medication process.

To achieve the goal of the third Global Patient Safety Challenge, five specific objectives will be adopted.

1. ASSESS the scope and nature of avoidable harm and strengthen the monitoring systems to detect and track this harm.

2. CREATE a framework for action aimed at patients, health professionals and Member States, to facilitate improvements in ordering, prescribing, preparation, dispensing, administration and monitoring practices, which can be adopted and adapted by Member States.

3. DEVELOP guidance, materials, technologies, and tools to support the setting up of safer medication use systems for reducing medication errors. 4. ENGAGE key stakeholders, partners, and industry to raise awareness of the problem and actively pursue efforts to improve medication safety.

5. EMPOWER patients, families, and their carers to become actively involved and engaged in treatment or care decisions, ask questions, spot errors, and effectively manage their medications.

World Patient Safety Day 2022

In the above context **'Medication Safety'** has been selected as the theme for World Patient Safety Day 2022, with the slogan **'Medication Without Harm'**. World Patient Safety Day is one of WHO's global public health days that was established in 2019 to support "Global action on patient safety". Its objectives are to increase public awareness and engagement, enhance global understanding, and work towards global solidarity and action by counties to enhance patient safety and reduce patient harm.

The global campaign of '**world patient safety day 2022'** reaffirms the objectives of the WHO Global Patient Safety Challenge: *Medication Without Harm* launched by WHO in 2017. The campaign calls on stakeholders to prioritize and take early action in key areas associated with significant patient harm due to unsafe medication practices. These include high-risk situations, transitions of care, polypharmacy (concurrent use of multiple medications) and look-alike, sound-alike medications (7).

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