

## EDITORIAL

## MEDICATION ASSOCIATED HARM

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Every person around the world will, at some point in his life, use medicines to prevent or treat his illness. However, treatments and medicines do sometimes cause serious harm. Sometimes mistakes committed by health workers and/or patients can result in severe harm. A medication error is 'any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the healthcare professional, patient, or consumer; such events may be related to professional practice, health care products, procedures and systems, including prescribing, order communication, product labelling, packaging and nomenclature, compounding, dispensing, distribution, administration, education, monitoring, and use'.<sup>1</sup>

There is now growing recognition that patient safety and quality of care is a critical dimension of universal health coverage. Estimates show that in developed countries as many as one in 10 patients is harmed while receiving hospital care. Globally, the cost associated with medication errors has been estimated at US\$ 42 billion annually or almost 1% of total global health expenditure.<sup>2</sup> Medication errors cause at least one death every day and injure approximately 1.3 million people annually in the United States of America alone.<sup>3</sup> Adverse Drug Events (ADEs) affect nearly 5% of hospitalized patients making them one of the most common types of inpatient errors; ambulatory patients may experience ADEs at even higher rates.<sup>4</sup>

World Health Organization (WHO), on 29 March 2017, launched a global initiative to reduce severe, avoidable medication-associated harm in all countries by 50% over the next 5 years. "We all expect to be helped, not harmed, when we take medication", said Dr Margaret Chan, WHO Director-General. "Apart from the human cost, medication errors place an enormous and unnecessary strain on health budgets. Preventing errors saves money and saves lives."<sup>2</sup>

Although reports published from western countries have suggested that many thousands of deaths per year are attributable to medication errors, the precise numbers remain unknown in Pakistan. There is no system in place to detect and report these events and we have yet to design and institute such a system. This system should not point finger at the caring health professionals because medication errors are inadvertent and honest mistakes. This proposed system should identify healthcare system inefficiencies and shortcomings, and suggest ways and means to improve the situation.

Pakistan has severe shortage of healthcare facilities and providers. There is about 53% shortage of doctors, 92% shortage of dentists, 96% shortage of nurses and 47% shortage of pharmacists as compared with the international standards.<sup>5</sup> The magnitude of the problem will definitely be high in Pakistan. Keeping in view the local socioeconomic conditions and the shortage of nurses, training and recruitment of male nurses may be encouraged. During the past many years, health infrastructure and health workforce did not develop proportionate to increase in population. Budgetary allocations on health are insufficient and need to be increased. As about 20%–40% of all health spending in developed and developing countries is wasted due to poor quality care, strict monitoring of health projects is mandatory.

In-patient and Out-patient Departments in a typical public sector hospital in Pakistan are overcrowded, under-staffed and short of space. There are 150–200 patients per outdoor doctor that is beyond the human capacity to efficiently deal with. If an outdoor doctor follows the recommended course of patient management, i.e., taking history, performing a proper physical examination, making a provisional diagnosis, ordering the required laboratory investigations, and then prescribing medicines with proper instructions for use of medicines, he will need at least about ten minutes for each patient. In a duty time of six hours, the doctor can deal with only thirty-six patients. This clearly shows that the doctors in outdoor are overburdened. Shortage of healthcare providers is compromising the quality of care that usually leads to medical errors. Overcrowding and overburdening also affects the psychology of the doctors who become irritable and sensitive and become prone to make mistakes.

Among other reasons, medication errors can be caused by poor training of health workers. Inappropriately trained doctors at home and doctors coming from less developed foreign countries are incompatible blood in the veins of our health system. We should develop a holistic system of audit and accountability to monitor health professional education, training and registration so that a high quality health workforce is provided. Professional as well as ethical grooming through continuous professional development (CPD) activities should be part of a doctor's career. Basic ethical principle of 'do no harm' should be deeply ingrained into the minds of health providers during training and during work.

Fortunately, all medication errors are potentially avoidable. Paying attention to health system inefficiencies is important as most harm arises from system failures. Improving the way care is organized and coordinated and how prescriptions are written as well as how patients are advised to consume medications can enormously curtail cases of medication related harm. This requires putting systems and procedures in place to ensure that the right patient receives the right medication at the right dose via the right route at the right time. An organizational culture that routinely implements best practices and that avoids

blame when mistakes are made is the best environment for safe care.<sup>2</sup>

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Received: 28 Jan 2017

Reviewed: 11 Feb 2017

Accepted: 15 Feb 2017