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INJECTION SAFETY

Misuse and overuse of injection worldwide

Injections are one of the most common health care procedures. Each year some 16 thousand million injections are administered in developing and transitional countries. The vast majority, around 95%, are given in curative care. Immunization accounts for around 3% of all injections, with the remainder for other indications, including injections of blood and blood products and contraceptives.

In certain regions of the world, use of injections has completely overtaken the real need, reaching proportions no longer based on rational medical practice. In some situations, as many as nine out of ten patients presenting to a primary healthcare provider receive an injection, of which over 70% are unnecessary or could be given in an oral formulation.

Patients prefer injections because they believe them to be stronger and faster medications. They also believe that doctors regard injections to be the best treatment. In turn doctors over-prescribe injections because they believe that this best satisfies patients, even though patients are often open to alternatives. In addition prescription of an injection sometimes allows the charging of a higher fee for service. Better communication between patients and providers can clarify these types of misunderstandings and help to reduce injection overuse.

Unsafe injection practices: A plague of many health systems

A safe injection does no harm. Yet breaks in infection control practices are common, causing severe infections which put human lives at risk.

Reuse of syringes and needles in the absence of sterilization exposes millions of people to infection. Syringes and needles are often just rinsed in a pot of tepid water between injections. In some countries the proportion of injections given with syringes or needles reused without sterilization is as high as 70%.

Other unsafe practices, such as poor collection and disposal of dirty injection equipment, expose healthcare workers and the community to the risk of needlestick injuries. In some countries unsafe disposal can lead to re-sale on the black market of used equipment.

Burden of disease associated with unsafe injection practices

Because injections are so common, unsafe injection practices are a powerful engine to transmit bloodborne pathogens, including hepatitis B virus (HBV), hepatitis C virus (HCV) and human immunodeficiency virus (HIV). Because infection with these viruses initially presents no symptoms, it is a silent epidemic. However, the consequences of this silent epidemic are increasingly recognized.

- **Hepatitis B virus:** HBV is highly infectious and causes the highest number of infections: unsafe injections account for 33% of new HBV infections in developing and transitional countries for a total of 21.7 million people infected each year.
- **Hepatitis C virus:** Unsafe injections are the most common cause of HCV infection in developing and transitional countries, causing two million new infections each year and accounting for 42% of cases.
- **Human immunodeficiency virus:** Globally nearly 2% of all new HIV infections are caused by unsafe injections with a total of 96 000 people infected annually. In South Asia up to 9% of new cases may be caused in this way. Such proportions can no longer be ignored.

HBV, HCV, and HIV cause chronic infections that lead to disease, disability and death a number of years after the unsafe injection. Those infected with hepatitis B virus in childhood will typically present with chronic liver disease by the age of 30 years, at the prime of their life. This has a dramatic effect on national economies. A recent study¹ indicated that each year unsafe injections cause an estimated 1.3 million early deaths, a loss of 26 million years of life, and an annual burden of US\$ 535 million in direct medical costs.

Safe and appropriate use of injections is within our grasp

Unsafe injection practices are often viewed as a chronic problem with no easy solution. However, safe and appropriate use of injections can be achieved by adopting a three part strategy:

(1) Changing behaviour of health care workers and patients

Twenty years into the HIV pandemic, knowledge of HIV among patients and health care workers in some countries has driven consumer demand for safe injection equipment and irreversibly improved injection practices. With growing knowledge of HCV and HBV, similar patterns of consumer demand for safe injections should emerge. HIV prevention programmes can be expanded to include injection safety components.

¹ The cost of unsafe injections by M.A. Miller & E. Pisani: Bulletin of the World Health Organization, Vol. 77, no 10, 808-811.

(2) Ensuring availability of equipment and supplies

Simply increasing the availability of safe injection equipment can stimulate demand and improve practices. Because the cost of safe disposable syringes is low (less than 5 US cents per unit) when compared to the fee paid for receiving an injection (50 US cents on average), patients are usually willing to pay a little extra for safety once they personalise the risks.

(3) Managing waste safely and appropriately

As waste disposal is frequently not an integral part of health planning, unsafe waste management is common. However, when it is appropriately planned, significant results ensue. National health care waste management strategies require a national policy to manage health care waste, a comprehensive system for implementation, improved awareness and training of health workers at all levels, as well as the selection of appropriate options for the local solutions.

Call for action

- Ministries of health can develop national policy and plans for safe and appropriate use of injections, with appropriate budgeting and financing.
- HIV/AIDS prevention programmes can include awareness regarding the risks of unsafe injections within all education and behaviour change activities.
- Essential drug programmes can make sterile syringes and sharps boxes available in every health care facility and address injection overuse within the national drug policy.
- Donors and lenders can ensure that all supplies of injectables, including vaccines and contraceptives, are delivered with matching quantities of auto-disable (AD) syringes and sharps boxes.
- Health systems can ensure sharps waste management as part of their 'duty of care'.

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