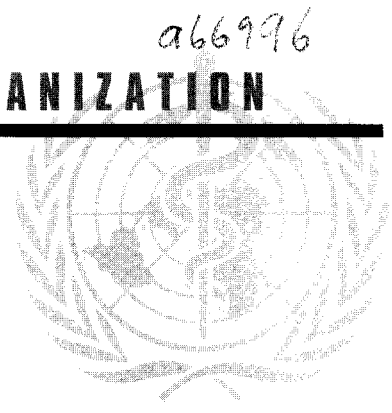


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WORLD HEALTH ORGANIZATION

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SAFETY OF INJECTIONS

QUESTIONS & ANSWERS

What are the risks associated with injections?

Bloodborne diseases such as hepatitis B, hepatitis C and HIV/AIDS are transmitted through injections due to unsafe injection practices and injection overuse.

Can you explain what the differences between safe and unsafe injection practices are?

A safe injection does no harm to the recipient, does not expose the health worker to any risk, and does not result in waste that is dangerous for the community. To achieve this, the injection needs to be prepared with clean hands in a clean area, using medication drawn from a sterile vial. The injection must be administered using a sterile syringe and needle. After administration, sharp equipment needs to be discarded in a puncture-proof container for appropriate disposal. Any break or departure from this procedure represents a risk, rendering the injection unsafe.

Among unsafe practices, syringe or needle re-use between patients without sterilisation is associated with the highest risk of bloodborne pathogen transmission.

What diseases can be contracted through unsafe injection practices?

The diseases most frequently transmitted through unsafe injection practice are hepatitis B, hepatitis C, and HIV/AIDS. Hepatitis B and C represent the highest burden of disease associated with unsafe injection practice. Contrary to public perceptions, hepatitis B and hepatitis C are transmitted respectively 100 and 10 times more through unsafe injection practices than HIV/AIDS. In addition, unsafe injections can cause abscesses and lead to septicaemia. Less frequently, haemorrhagic fevers and malaria can also be transmitted.

How many people become infected each year due to unsafe injection practice?

Mathematical models have been developed suggesting that annually 8-16 million hepatitis B infections, 2-4.5 million hepatitis C infections, and 75,000-150,000 HIV/AIDS cases may be caused by re-use of syringes and needles without sterilisation¹. Because the viruses that can be transmitted through unsafe injections can remain "silent" in the body for a long time before they cause symptoms, precise estimates of the number of people who become infected each year because of unsafe injection practices are not available.

How many injections are administered annually world-wide?

About 12 billion preventive and curative injections are given each year, signifying that everyday 40 million injections are administered world-wide. Over 95% of all injections given are curative (therapeutic): for every vaccination given, 20 therapeutic injections are administered.

How does overuse of injections lead to the transmission of blood-borne pathogens?

The more injections are given, the more people are exposed to needles and syringes. In addition, if the use of injections exceeds the availability of injection equipment allows, re-use of syringes and needles is likely to occur. Therefore the greater the use, the higher the risk.

What are the reasons for injection overuse?

- In the case of curative injections, patients and healthcare workers often believe that injections are more effective and act faster than oral medication. In addition, injections allow healthcare workers to control the intake of a given medication (better compliance with treatment regimens), and sometimes, to charge an increased fee for service.
- In the case of vaccination injections, there is a lack of combination and oral vaccines to be used to decrease the number of vaccination injections.

Are healthcare workers not aware of the risks of unsafe injection practices?

In many cases trained healthcare workers such as physicians, nurses, and paramedical staff have not been trained to safe injections practices. Often, they lack the awareness of the risks associated with unsafe practices. In addition, in some communities, untrained lay persons administer injections outside the formal healthcare sector.

Is it difficult to make injections safe?

Yes. Improvement of injection practices is difficult because it requires behaviour change that needs to be induced through Information, Education, and Communication (IEC) activities in a supportive environment. Awareness of healthcare workers and patients regarding the risks associated with unsafe practices must be increased, adequate injection equipment must be provided in sufficient quantities, and a reliable waste disposal infrastructure must be made available. Strong political and economic support is needed to achieve such changes and establish community norms for safe injections.

Why are syringes re-used in the developing world?

Widespread re-use of syringes and needles in the developing world is due to several factors:

¹ Kane A. et al. Bull. World Health Organ. 1999; in press.

- a lack of awareness regarding the risks associated with syringe re-use associated with a cultural resistance to waste in countries where resources are scarce;
- a lack of supplies of syringes and needles;
- the absence of infrastructure for the safe collection and destruction of used injection equipment, allowing for scavenging and parallel market development.

What constitutes safe syringe disposal?

Safe syringe disposal requires that syringes and needles be placed in puncture-proof containers (safety box) immediately after use. These boxes must then be collected for incineration or other forms of destruction.

What is the annual cost of unsafe injections to healthcare systems?

In the United States where HBV and HCV infection are not common, the overall cost of HBV and HCV is estimated at US \$1.3 billion. In many developing countries, the proportion of the population infected with HBV and HCV exceeds 10 times the prevalence seen in the USA, and in many of these countries, unsafe injections account for a large proportion of new cases of HBV and HCV infection. Thus, the cost of unsafe injection practices in developing countries is high.

What are the WHO recommendations for a safe and appropriate use of injections?

Education: A safe and appropriate use of injections should be promoted among healthcare workers and in the population by Information, Education, and Communication (IEC) activities. These activities should be based on an initial assessment of the situation.

Medical practice: Incentives against overuse of injection should be put into place. Recommendations for increased use of oral medication should be made at all levels of society so that healthcare workers and consumers alike can request alternatives to injections.

Waste disposal infrastructure: Syringe disposal systems should be re-examined and disposal infrastructures put into place and supervised.

Politically: Governments should provide the strong political and financial support needed to achieve a safe and appropriate use of injections. They should support Information, Education, and Communication (IEC) activities, purchase safe injection equipment in sufficient supplies, and set-up appropriate waste disposal systems.

Private sector: Industry should consider technology transfers to allow companies within countries to develop cheaper, safer technology accessible to local health budgets. Injection technology should evolve, with ever safer technology being developed. Combination and oral vaccines should be developed to reduce the number of injections in the case of immunization campaigns.

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